CI852A

400MHz FSB / VGA / LAN / Sound / Mini PCI /PC 104 Plus

400MHz FSB . All-in-one .
Sound . LAN . Mini PCI . PC 104 Plus
ATA 33/66/100 . 6 USB . CF
Multi-Lan Board

NO. CI852A
Release date: Sep . 30 . 2005

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CI852A

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User Manual edition 0.1, OCT. 21 . 2005

Chapter-1

General lnformation

The CI852A is a NEO form factor All-In-One Network control Board. The board's design combines all necessary input and output effects interfaces, which makes itself an ideal all-in-one control board for demanding network applications. CI852A is the perfect platform for a whole range of small form factor, low-power network devices.
The CI852A's Intel 852GM chipset features Dual independent pipe for dual independent display . It supports same images and native display timings on each display device.
It also support Improved hardware motion compensation for MPEG2, all format decoder (18 ATSC formats) supported , Dynamic Bob and Weave support video streams.
Software DVD at 60 Fields/second and 30 frames / second full screen
With the sizable memory bandwidth of DDR266 SDRAM and the high data transfer speeds of ATA/100, CI852A ensures the high performance levels required of today's most popular digital Networking applications.
CI852A is supported with up to four 10/100/1G Ethernet for seamless broadband connectivity. With Wake On LAN function and the PXE function in BIOS for Realtek LAN chipset only, CI852A is a perfect control board for network devices. The built-in LAN options are four Intel 82541GI/PI/ER with RJ45 for 10/100M/1Gbps Ethernet or four Realtek RLT8110SB chipsets for 10/100M/1Gbps Ethernet; or another option of four Realtek RLT8100C 10/100Mbps Ethernet.
Except CompactFlash, and a PC104Plus and Mini PCI slot, CI852A can integrate with various type PC104Plus Card / Mini PCI Card. In addition, with the 6 hi-speed USB version 2.0 enhanced host controller interface, the CI852A ensures the high performance level and also the powerful and flexible expansion.
With Ultra DMA-100/66 access of mode 4 to IDE drive interface architecture, the IDE supports maximum 100MB/sec in data transfer rating to four enhanced IDE devices.
The CI852A All-In-One motherboard supports DDR memory with one DIMM socket up to 1GB. Compact Flash reader supports IDE/ATA interface. A single Flash chip holds the system BIOS, and you can change the Flash BIOS by the Utility Update. Advanced IR port also provides a faster data transmission.
The CI852A All-In-One motherboard is fully compatible with industry standards, plus technical enhancements, and thousands of software applications developed for IBM PC/AT compatible computers. The control logic provides high-speed performance for the most advanced multi user and multitasking applications available today.

1-1 Major Feature

1. Intel Celeron M 600 Mhz L2 0K CPU on board (FSB 400 Mhz)
2. Intel 82852GM Chip Set on board , Graphic Chip Integrated
3. Support DDR 200 / 266 up to 1GB
4. Support 4 x 10 / 100 M LAN on Board (Intel / Realtek LAN Chip) , Giga LAN is option , Support PXE / RPL Function (for Realtek LAN only)
5. Support up to 64 MB Video Memory (Share from System Memory)
6. 18 bits LVDS Interface on Board , Support up to UXGA Resolution / Support Twin View Function .
7. Support 1 x 40 Pins IDE + 1 x 44 Pins IDE and 1 x Compact Flash Card Socket on Board (All can be Boot-Up Device)
8. Support PC104Plus Socket on board , up to 4 pcs PC104Plus Card / Mini PCI Socket on board (Note: -5V, -12V no support)
9. External +12V Power Supply
10. Compact PCB Dimension : 200 x 150 mm
11. Support MS Windows 9x / ME / 2k / XP / CE / XP Embedded , Linux 2.4

*The models mentioned above are standard models currently.

1-2 Specification

1. CPU : Intel Celeron M 600 Mhz
2. Cache Memory : L1 32KB , L2 0KB
3. ChipSet : Intel 82852GM and Intel 82801DB ICH4
4. Memory : One Dimm socket up to 1GB DDR
5. VGA : Internal Graphics Memory Up to 64MB of dynamic video memory allocation
6. I/O Chip : ITE IT8712F (IX)IO
7. IDE : Ultra ATA 100/66/33,BMIDE and PIO mode
8. LAN : 4 x Realtek RLT8100C 10T/100T
4 x Realtek RLT8110SB 10T/100T/Giga
4 x Intel 82541GI 10/100T/Giga
9. Storage Device : 1 x 50 pins Compact Flash Socket
1 x 40 pins IDE
1 x 44 pins IDE
10. Serial Port : 1 x RS232
11. USB : 6 x USB 2.0
12. Keyboard : PS/2 5pins Header
13. Mouse : PS/2 5pins Header
14. Sound : AC'97 2.1 ,
15. BIOS : Award BIOS version V6.00PG
16. Form Factor : Light Board , 200 x 150 mm
17. Power : DC 12V-In
18. Power Voltage : +12V ±5%
19. Power Consumption: Please refer to page 65

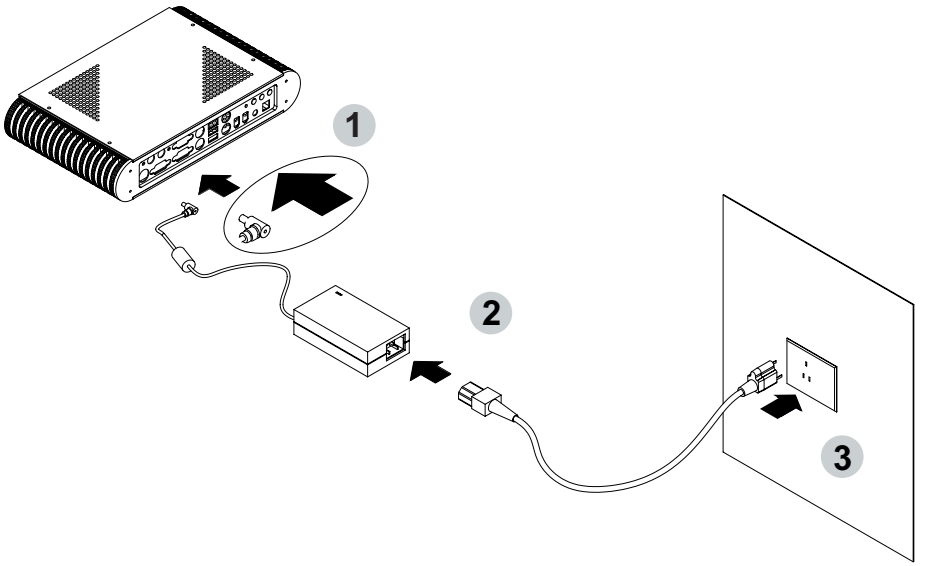
1-3 Hardware Notice Guide

1. Before installing the power supply with this motherboard, please attach the 12V/DC (4 pin connector)of the adapter to motherboard first.
   After that, plug the adapter power to AC outlet.
   Always normally shut down the computer before you move the system unit or remove the power supply from the motherboard.
   Please unplug the 12V/DC (4 pin connector) of the adapter from motherboard first.
   Then unplug the adapter from the AC outlet.
   Please refer to procedure from the photo 1
2. There will be high possibility to burn out the CPU if you change/ modify any parts of the CPU cooler.
3. Please wear wrist strap and attach it to a metal part of the system unit before handling a component.
   You can also touch an object that is of ground connection or with metal surface if you don't have wrist strap.
4. Please be careful when you handle this product. Pay attention to & don't touch the sharp-pointed components at the bottom PCB .
5. Please pay attention to this: Remove or change any components form the motherboard will VOID the warranty of the motherboard you purchased .
6. Before you install/remove any components or make any jumper setting on the motherboard, please make sure to disconnect the power first.
   (Please follow the instructions as of this guide)
7. Please only use single sided Mini PCI card, do not use the double sided Mini PCI card which is not suitable.
8. This does not support 16 bit mini PCI card
9. Please follow this instruction carefully when using the "POWERON after PWR-Fair" function.
   When the DC power adaptor runs out of power, unplug it from the DC current;
   when power returns plug it back in only after 5 seconds. If there is a power outage,
   unplug it from the AC current, when power returns plug it back in only after 30 seconds.
   Otherwise it will cause system locking or serious damage.

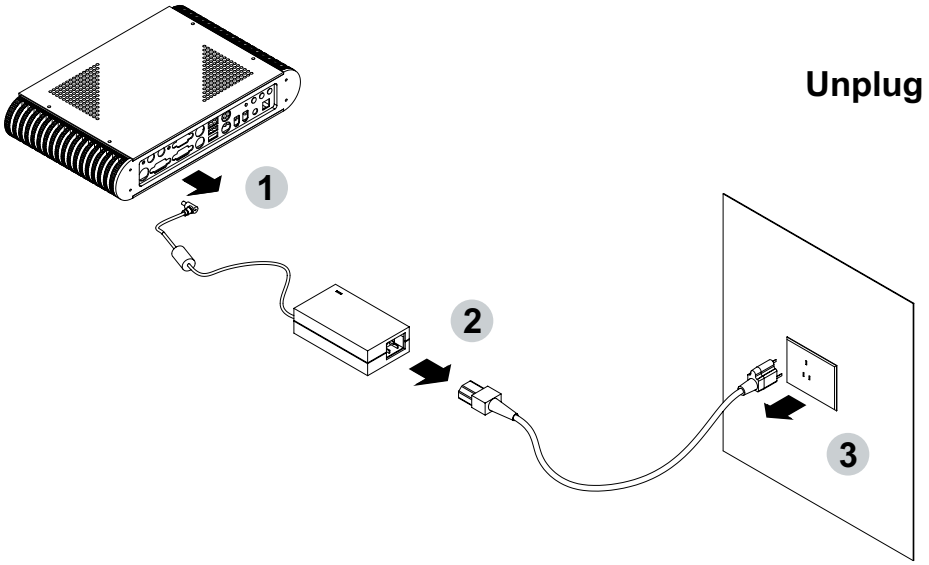
Remark 1:
Always insert/unplug the 12V/DC (4 pin connector) horizontally & directly from the motherboard.
DO NOT twist the 12V/DC (4 pin connector) gently, it is designed to fit snugly .
Moreover, erratic pull / push testing with the DC Jack might cause the unpredictable damage to the component & system unit.

Photo 1

Insert

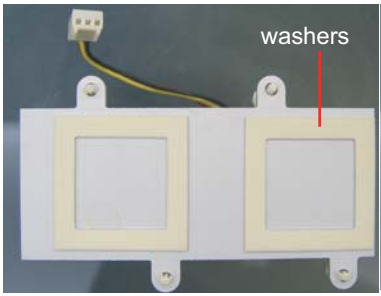


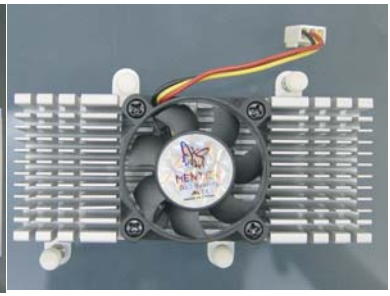
Unplug



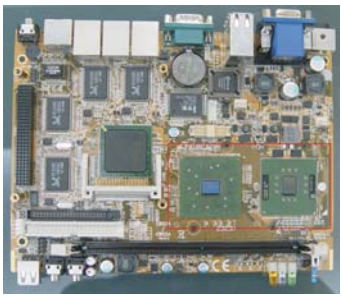
1-3-1 Installing the CPU / North Bridge Chip Heatsink.

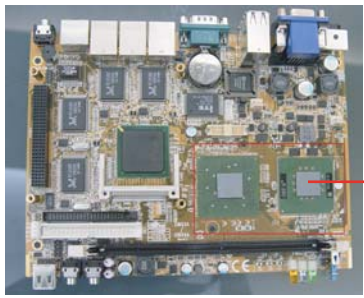
1.Make sure the Heatsink washers are attached to the correct location of the Heatsink.



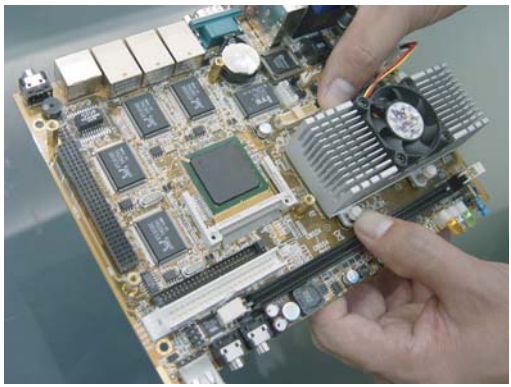


2. Apply the thermal pad on center part of CPU and North Bridge chip.



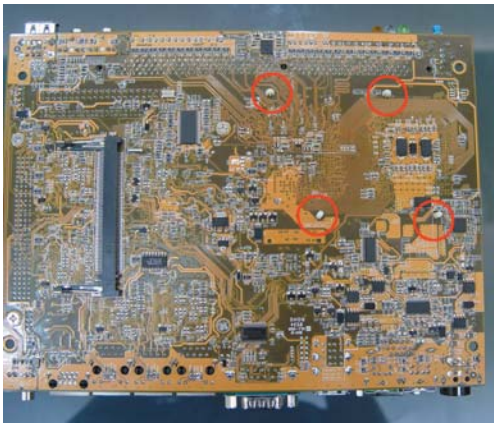


3. Put the Heatsink gently on CPU & North Bridge chip



4.Press the latches to secure the Heatsink on the Motherboard. Never push down the Heatsink. Doing so might cause the irreparable damage to the CPU. All force should be applied to the latches only.

5. Make sure all Heatsink latches are firmly aligned with the motherboard.



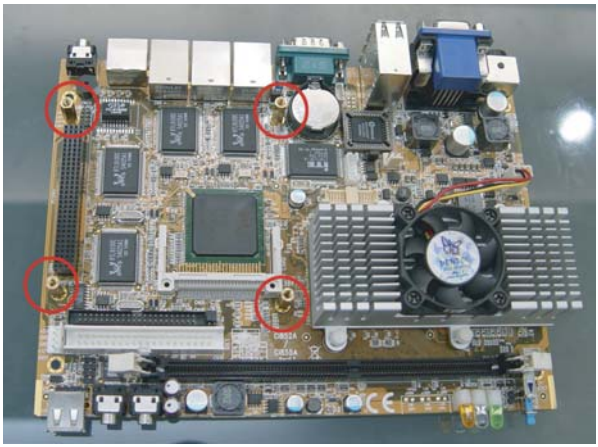
6. Connect cooler's fan power cable onto CPUFAN (JF2) connector.

Important Note :

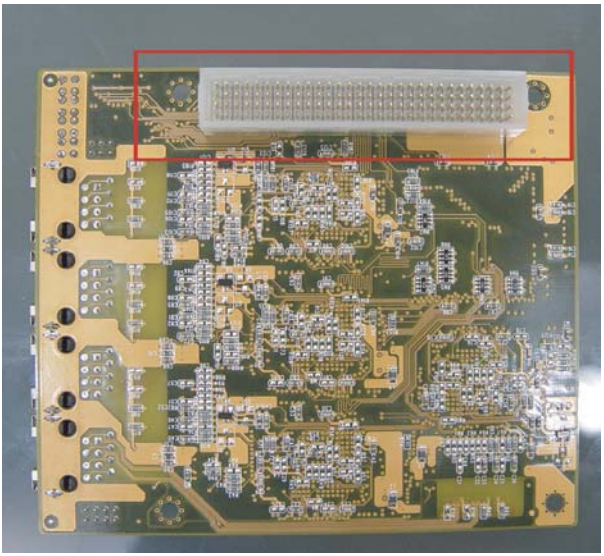
1. The CPU and North Bridge chip will suffer thermal failure with improper Heatsink installation. The system will automatic power off when the CPU is reaches the temperature of 110℃
2. Wrong location of Heatsink washer and improper force while installing Heatsink might cause irreparable damage to CPU and Northe Bridge chips and such damage will VOID warranty service.

1-3-2 Installing the PC104 Plus Module

1.Make sure there are 4 pcs copper risers before installing the PC104 Plus Module



2. Make sure there are no crooked or missing pins of PC104 Plus connector.



3. Press down firmly on the PC104 Plus module until the module is completely seated in the connector. (Repeat this step if you are installing additional PC104 Plus Modules.)

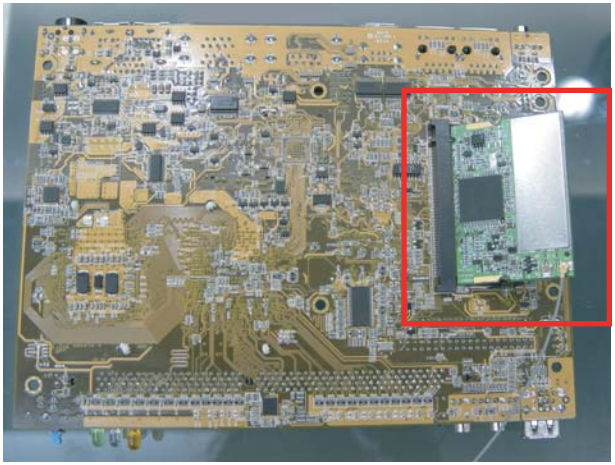
4. Secure PC104 Plus module with screws and stack additional PC104 Plus modules with copper risers.

Important Note :

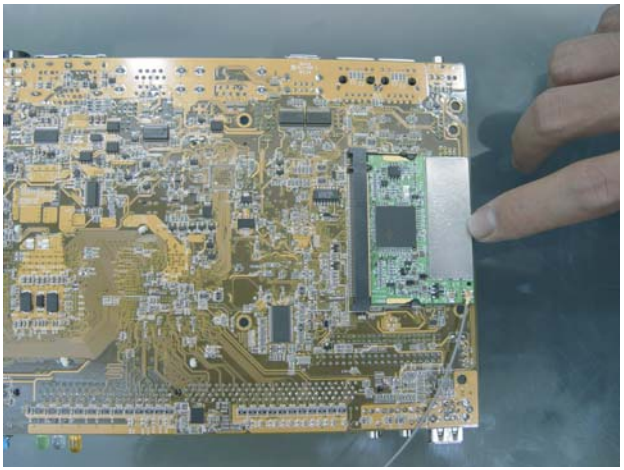
1. Do not tilt and be careful not to bend any pins while installing the PC 104 Plus module.
2. Improper installation might cause irreparable damage to the pins or connector and such damage will VOID warranty service.

1-3-3 Installing the Mini PCI card

1. Align the Mini PCI card with the connector at a 45 degree angle.

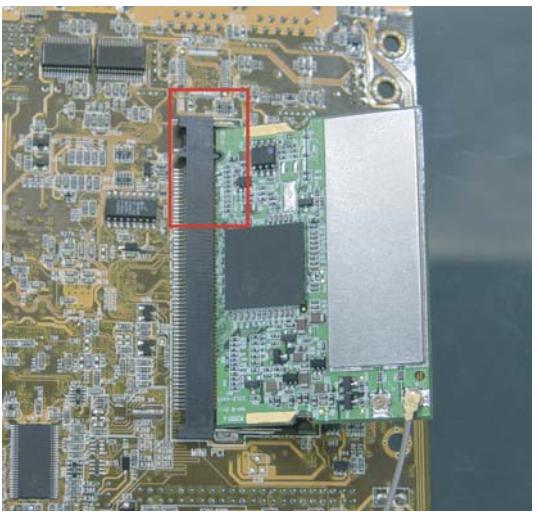


2. Press the Mini PCI into the connector until you hear a click.

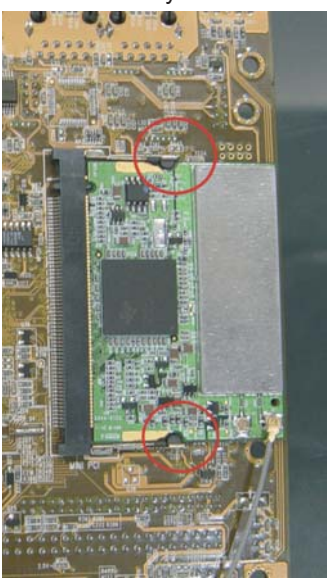


Notices:

1.The connectors are designed to ensure the correct insertion. If you feel resistance, check the connectors & golden finger direction, and realign the card.

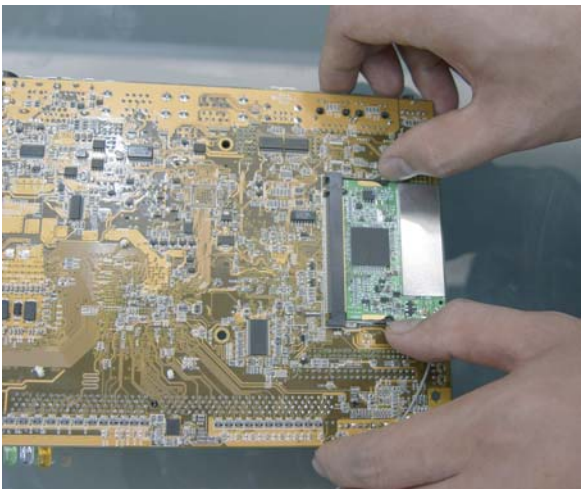


2. Make sure the retaining clips (on two sides of the slot) lock onto the notches of the card firmly.

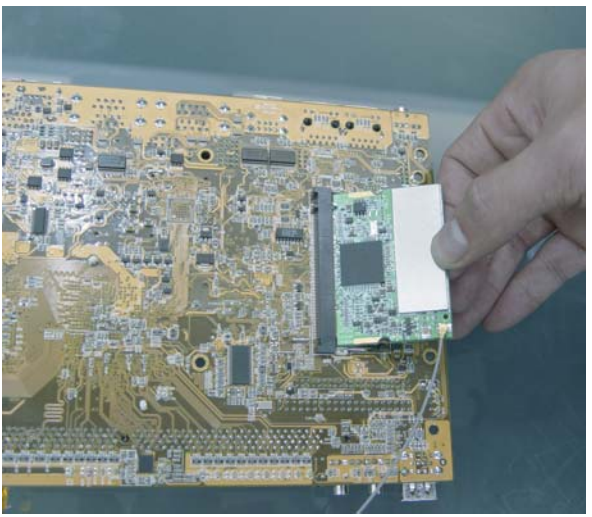


1-3-3.1 Removing the Mini PCI card

1. Release the Mini PCI card by pulling outward the two retaining clips and the card pops up slightly.



2. Lift the mini PCI card out of its connector carefully.



1-4 Packing List*

① CI852A Board

② DC 12V Power Adapter (4P)

③ One ATA 100 Flat Cable

④ One slim IDE port flat Cable (2.0mm)

⑤ Power Cable

⑥ Utility CD Disk

⑦ User's Manual

*The packing list above is for the users who purchase single motherboard. The users who purchase the board with chassis may refer to the packing list in the Assembly Guide.

Please contact your dealer if any of these items is missing or damaged on delivery. And please keep all parts of the package with packing materials in case you need to deliver or store the product in the future.

Chapter-2

Hardware Installation

This chapter provides the information how to install the hardware of CI852A. Please follow section 1-3, 2-1 and 2-2 to check the delivery package and unpack carefully. Please follow the jumper setting procedure.

2-1 Unpacking Precaution

The CI852A board has been well packed with an anti-static bag to protect its sensitive components and circuitry from damage due to static electric discharge.

NOTE!

1. Do not touch the board or any other sensitive components without all necessary anti-static protection.
2. Please pay attention to the voltage limitation of DC-IN12 V ± 5 %. Overuse of DC-IN voltage limitation or change to another power adapter (not provided with this system) will VOID warranty.

You should follow these steps to protect the board from the static electric discharge whenever you handle the board:

1. Ground yourself by a grounded wrist strap at all times when you handle the CI852A. Well secure the ALLIGATOR clip of the strap to the end of the shielded wire lead from a grounded object. Please put on and connect the strap before handling the CI852A for harmlessly discharge any static electricity through the strap.

2. Please use anti-static pad to put any components, parts, or tools on the pad whenever you work on them outside the computer. You may also use the anti-static bag instead of the pad. Please ask your local supplier for necessary parts on anti-static requirement.

3. Do not plug any connector or set any jumper when the power is on.

2-2 Unpacking checkup

First of all, please follow all necessary steps of section 2.1 to protect CI852A from electricity discharge. With reference to section 1.3, please check the delivery package again with following steps:

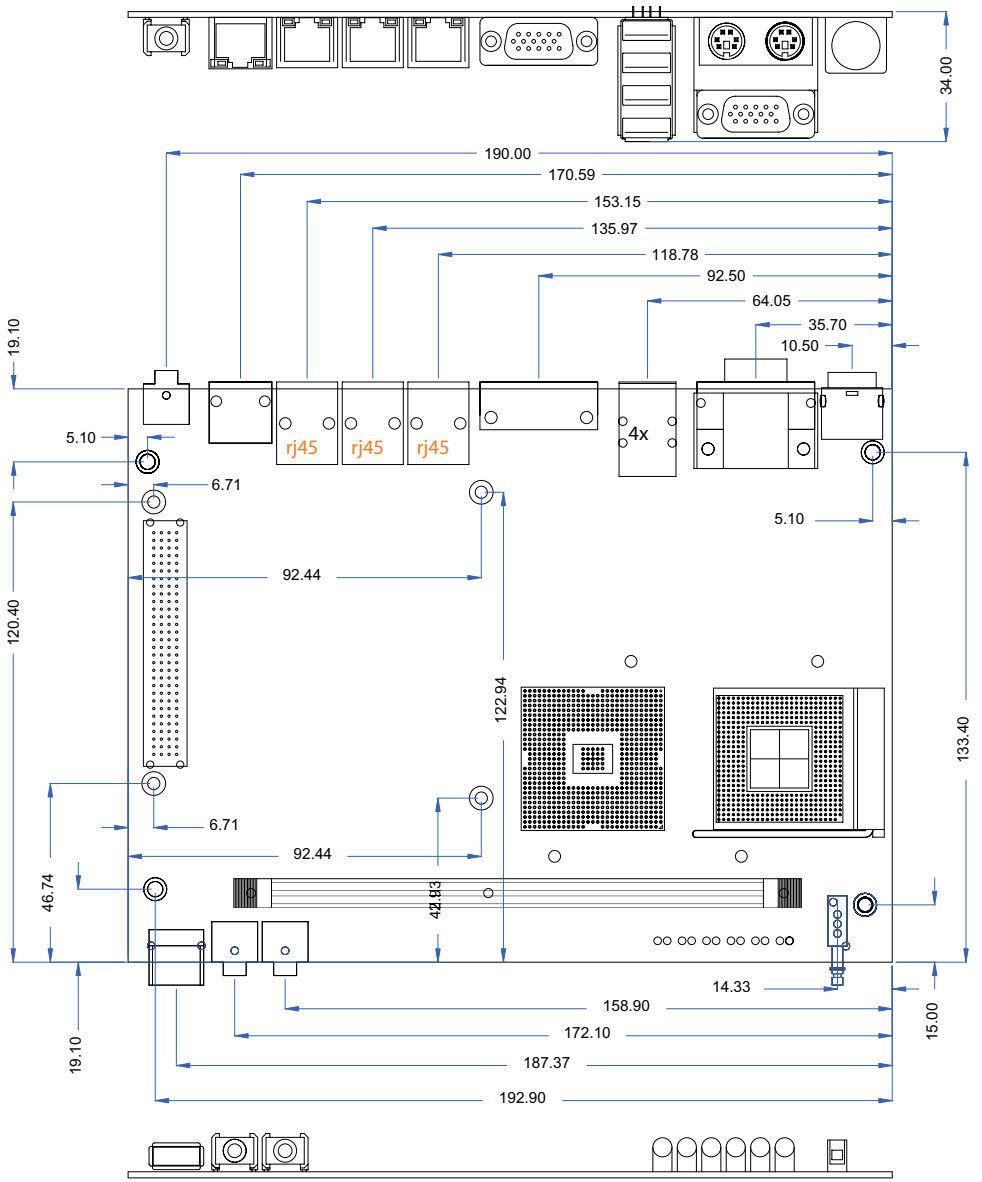
1. Unpack the CI852A board and keep all packing material, manual and driver disc etc, do not dispose !

2. Is there any components lose or drops from the board? DO NOT CONTINUE TO INSTALL THIS BOARD!CONTACT THE DEALER YOU PURCHASED THIS BOARD FROM, IMMEDIATELY.
3. Is there any visible damage on the board? DO NOT CONTINUE TO INSTALL THIS BOARD!CONTACT THE DEALER YOU PURCHASED THIS BOARD FROM, IMMEDIATELY.
4. Check your optional parts (i.e. DDR, CF etc.), all necessary jumpers setting to jumper pin-set, and CMOS setup correctly. Please also refer to all information of jumper settings in this manual.

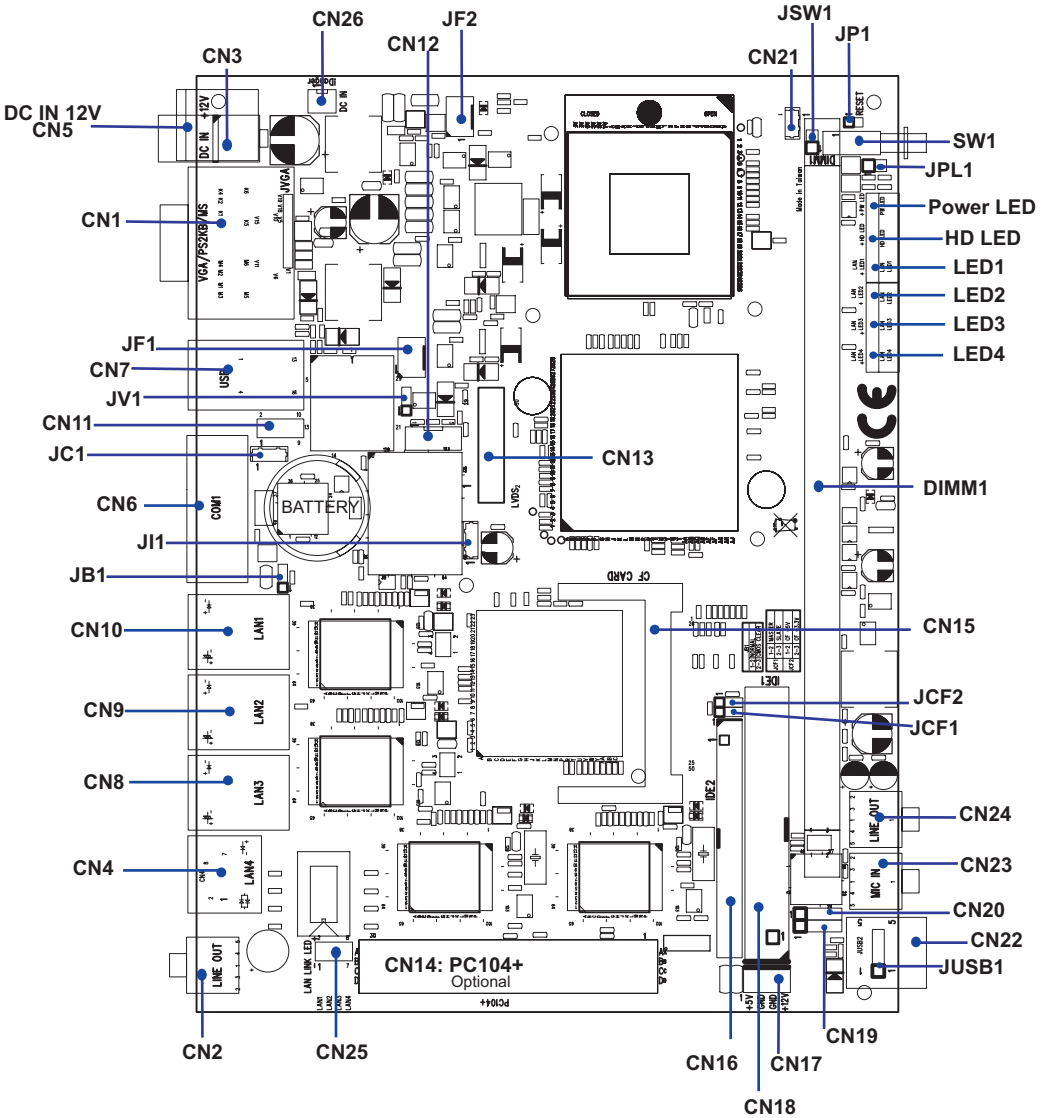
5. Check your external devices (i.e. Add-On-Card, Driver Type etc.) for complete add-in or connection and CMOS setup correctly. Please also refer to all information of connector connection in this manual.

6. Please keep all necessary manual and driver disc in a good condition for future re-installation if you change your Operating System.

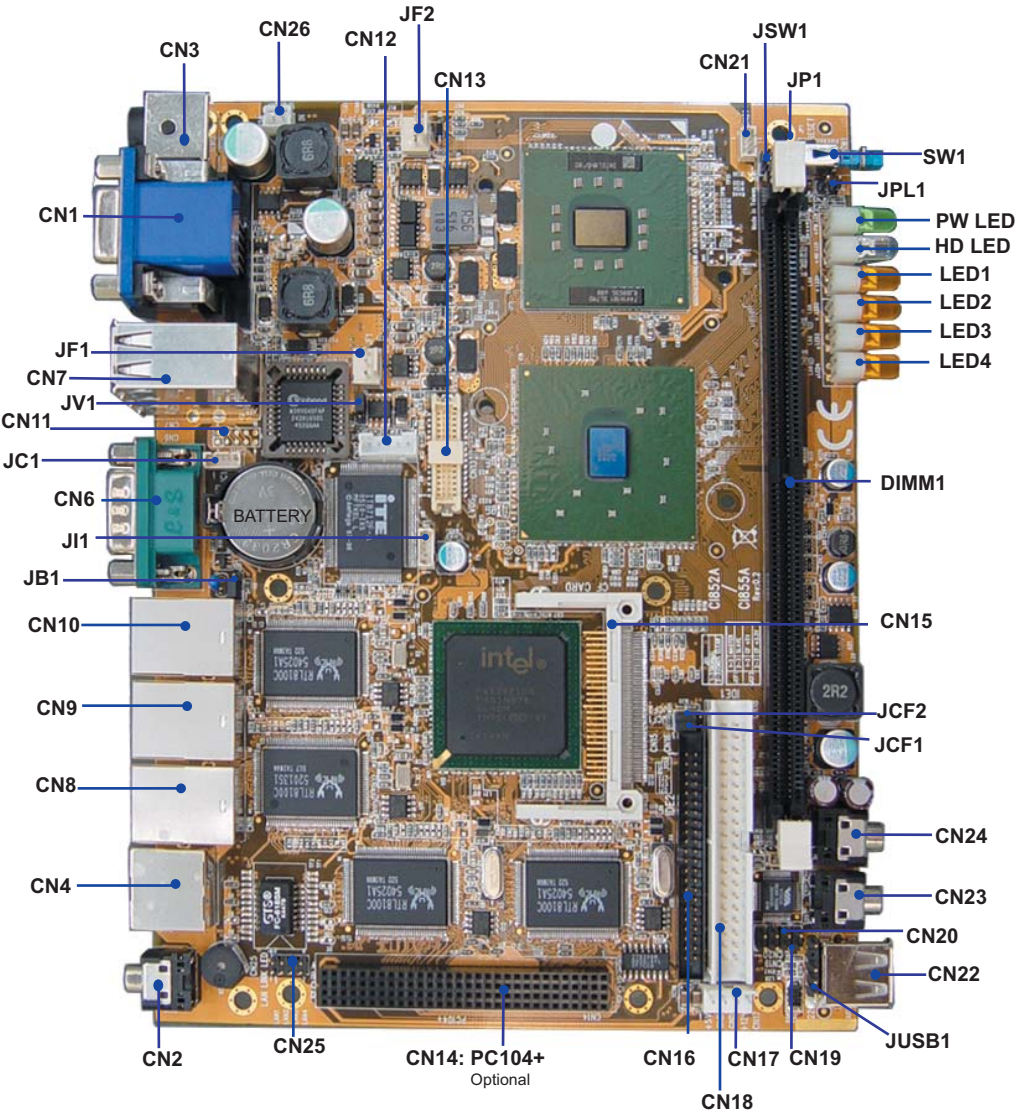
2-3 Dimension 200x150(mm)



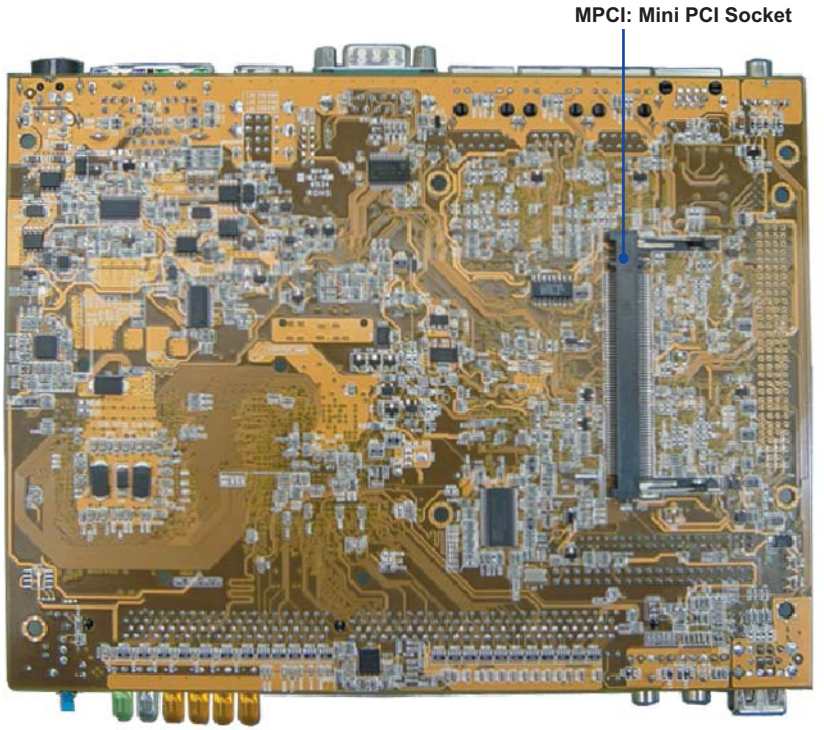
2-4 Layout


CN26
JF2
CN12
JSW1
JP1
CN3
CN21
DC IN 12V
CN5
SW1
JPL1
CN1
Power LED
HD LED
LED1
LED2
LED3
LED4
JF1
CN7
JV1
CN11
JC1
CN13
DIMM1
CN6
JI1
JB1
CN10
CN15
JCF2
CN9
JCF1
CN8
CN24
CN4
CN23
CN20
CN22
JUSB1
CN14: PC104+
Optional
CN2
CN25
CN16
CN17
CN18
CN19
BATTERY

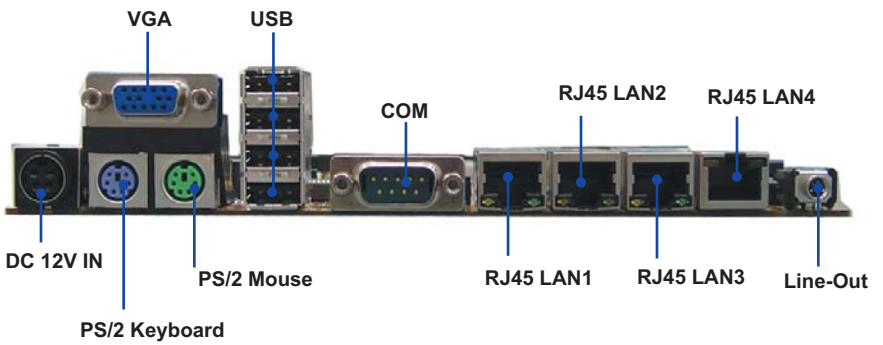
2-5 Diagram


CN3
CN26
CN12
JF2
CN13
JSW1
CN21
JP1
SW1
JPL1
CN1
PW LED
HD LED
LED1
LED2
LED3
LED4
JF1
CN7
JV1
CN11
JC1
CN6
JI1
JB1
BATTERY
DIMM1
CN10
CN15
CN9
JCF2
JCF1
CN8
CN24
CN4
CN23
CN20
CN22
JUSB1
CN2
CN25
CN14: PC104+
Optional
CN16
CN17
CN19
CN18

2-5-1 Bottom Side Diagram



Back Panel



2-6 Install Memory

This motherboard provides one 184-pin DUAL INLINE MEMORY MODULES (DIMM) socket for memory expansion available from minimum memory size of 64MB to maximum memory size of 1GB DDR RAM.
Supports PC 1600/2100 DDR DIMM, DRAM clock supports: DDR200, DR266
Mixed 1M / 2M / 4M / 16M / 32M / 64M x N DRAMs

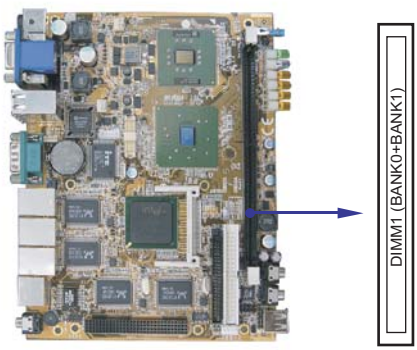
Valid Memory Configurations

DIMM1	System Accept or Not	Total Memory
		Min. ~ Max.
DS/SS	Accept	64MB~1GB

DS: Double Sided DIMM **SS: Single Sided DIMM**

NOTE!
Make sure the total installed memory does not exceed 1GB; otherwise, the system may hang during startup.

Install DDR RAM module oriented as Fig. 2.1.



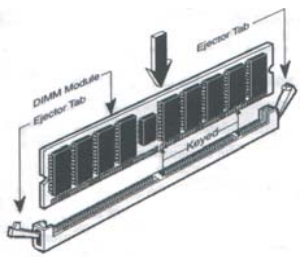


Figure 2.1

NOTE!

When you install DIMM module fully into the DIMM socket, the eject tab should be locked into the DIMM module very firmly and fit into its indention on both sides.

WARNING!

1. If the DDR RAM CLOCK is set at 133MHz, you must use DDR266-compliant DIMMs. When this motherboard operates at 133Mhz, the system will not boot if non DDR266-compliant DDR RAM modules are used because of the strict timing issues.

2. Once you hear " Beep Beep Beep" sounds after turning on the power , please check if the DRAM is installed properly or not.

2-7 List of Jumpers

JB1: CMOS DATA SET

JCF2: CF card Power +5V/+3.3V select

JCF1: CF card master and slave select

JV1: LVDS power select

2-8 Jumper Setting Description

A jumper is ON as a closed circuit with a plastic cap covering two pins. A jumper is OFF as an open circuit without the plastic cap. Some jumpers have three pins, labeled 1, 2, and 3. You could connect either pin 1 and 2 or 2 and 3.
The below figure 2.2 shows the examples of different jumper settings in this manual.

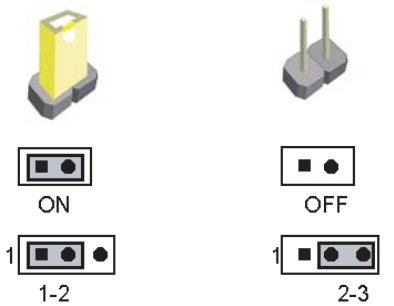


Figure 2.2

All jumpers already have its default setting with the plastic cap inserted as ON, or without the plastic cap as OFF. The default setting may be referred in this manual with a " * " symbol .

2-9 CMOS Data Set

A battery must be used to retain the motherboard configuration in CMOS RAM. Close pin 1and pin 2 of JB1 to store the CMOS data.

To clear the CMOS, follow the procedures below:
1. Turn off the system and unplug the AC power
2. Remove DC 12V power cable from DC 12V power connector
3. Locate JB1 and close pin 2-3 for a few seconds
4. Return to its normal setting by shorting pin 1-2
5. Connect DC 12V power cable back to DC 12V power connector

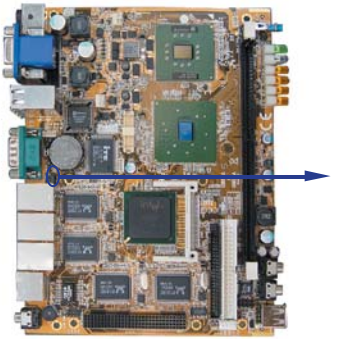
Note: Do not clear CMOS unless

1. Troubleshooting

2. Forget password

3. You fail over-clocking system

JB1	Description
*1-2	*Normal Set
2-3	CMOS Data clear



JB1

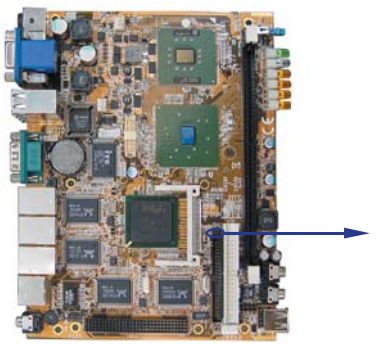
***Normal**

Clear Setting

2-10 JCF2 CF Card Power Voltage select

If you use CF card and HDD together, we suggest you use the jumper setup for +5V.

JCF2	Description
*1-2	*For CF CARD power voltage select +5V
2-3	For CF CARD power voltage select +3.3V



JCF2

+5V*

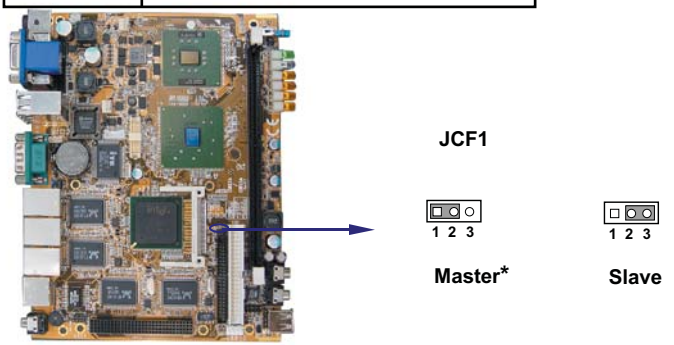
3.3V

* We use ☐ to refer to as pin1

2-11 JCF1 CF Card Master/Slave selection

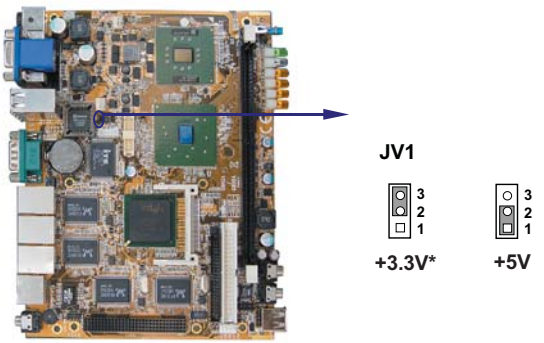
If you use CF card and HDD together, please set CF as Master and HDD as Slave.

JCF1	Description
*1-2	*CF Card use Master type
2-3	CF Card use Slave type



2-12 JV1: Panel power select

JV1	Description
1-2	+5V
*2-3	+3.3V



Chapter-3

Connection

This chapter provides all necessary information of the peripheral's connections, switches and indicators. Always power off the board before you install the peripherals.

3-1 List of Connectors

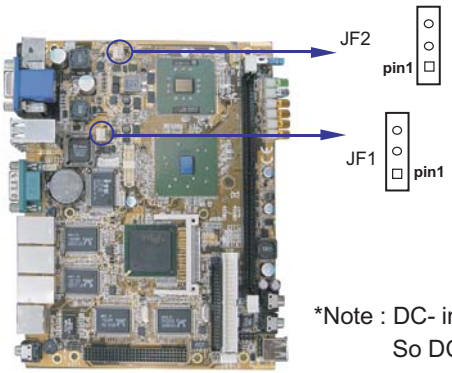
CN3: DC 12V-IN DIN Connector
CN5: DC 12V-IN Connector
CN26:DC 12V-IN Connector
CN1: VGA DB15 Connector
CN1: PS2 Keyboard Connector
CN1: PS2 Mous Connector
CN7: USB Connector
CN6: COM1 port Connector
JC1: COM1 port Connector
CN10: RJ45 LAN1 Jack
CN9: RJ45 LAN2 Jack
CN8: RJ45 LAN3 Jack
CN4: RJ45 LAN4 Jack
CN25:LAN Link LED
CN2/24: Line out connector
CN23: MIC-IN Connector
CN22: USB 4 port connector
JUSB1/JUSB2:USB 4/5 port connector
CN13: LVDS connector
CN12 : Inverter power connector
CN18: IDE1 (2.54mm)Connector
CN16: IDE2 (2.0mm)Connector
CN15 : CF socket
CN17: DC +5/+12V output connector
CN20: CD-IN Header
CN19: Line-IN Header
JI1: IR connector
JF2: CPU FAN connector
JF1: System FAN connector
CN11 : DIO connector
CN21: I2C Bus connector
CN14 : PC104 plus socket
MPCI1:Mini PCI socket

3-2 FAN Connector

CI852A provides one CPU fan connector and one system fan connector.

CPU Fan Connector- JF2

System FAN Connector-JF1



PIN NO.	Description
1	FAN Control ON/OFF
2	+12V
3	FAN speed Sensor

*Note : DC- in +12V by switch to DC-out voltage +12V
So DC -in need stable +12V input

3-3 IDE Connectors

There are two kinds of IDE connectors on this board, 40-pin and 44-pin. Each can support up to two IDE-inferface devices. One standard 40-pin header daisy-chain driver connector provides as IDE1 with following pin assignment.

40 pins (2.54mm)-CN18(IDE 1)

This connector supports the provided IDE hard disk ribbon cable. After connecting the single plug end to motherboard, connect the two plugs at other end to your hard disk(s). If you install two hard disks, you must configure the second drive as Slave mode by setting its jumpers accordingly. Please refer to the documentation of your hard disk for the jumper settings.

PIN NO.	Description	PIN NO.	Description
1	RESET#	2	GROUND
3	DATA7	4	DATA8
5	DATA6	6	DATA9
7	DATA5	8	DATA10
9	DATA4	10	DATA11
11	DATA3	12	DATA12
13	DATA2	14	DATA13
15	DATA1	16	DATA14
17	DATA0	18	DATA15
19	GROUND	20	+5V
21	DREQ	22	GROUND
23	IOW#	24	GROUND
25	IOR#	26	GROUND
27	IORDY	28	PULL DOWN
29	DACK#	30	GROUND
31	IRQ14/15	32	NC
33	SA 1	34	ATA 33/66/100 CABLE SELECT
35	SA 0	36	SA 2
37	HD CS0#	38	HD CS1#
39	HD LED	40	GROUND

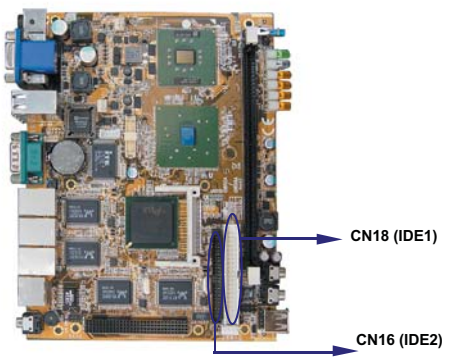
Note: Pin20 is +5V power can use new type DOM module.

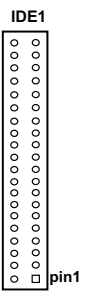
44 pins(2.0mm)-CN16 (IDE2)

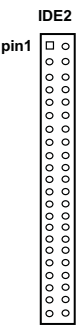
This connector supports slim type 2.5" HDD. Follow the same procedure described for the primary IDE connector. You may also configure two hard disks as both Masters using one ribbon cable on the primary IDE connector and another ribbon cable on the secondary IDE connector. (See Appendix B)

PIN NO.	Description	PIN NO.	Description
1	RESET#	2	GROUND
3	DATA7	4	DATA8
5	DATA6	6	DATA9
7	DATA5	8	DATA10
9	DATA4	10	DATA11
11	DATA3	12	DATA12
13	DATA2	14	DATA13
15	DATA1	16	DATA14
17	DATA0	18	DATA15
19	GROUND	20	NC
21	DREQ	22	GROUND
23	IOW#	24	GROUND
25	IOR#	26	GROUND
27	IORDY	28	PULL DOWN
29	DACK#	30	GROUND
31	IRQ14/15	32	NC
33	SA 1	34	ATA 33/66/100 CABLE SELECT
35	SA 0	36	SA 2
37	HD CS0#	38	HD CS1#
39	HD LED	40	GROUND
41	+5V	42	+5V
43	GROUND	44	NC

Note!
PIN 20 connector +5V of IDE 1 could provide the power of DOM



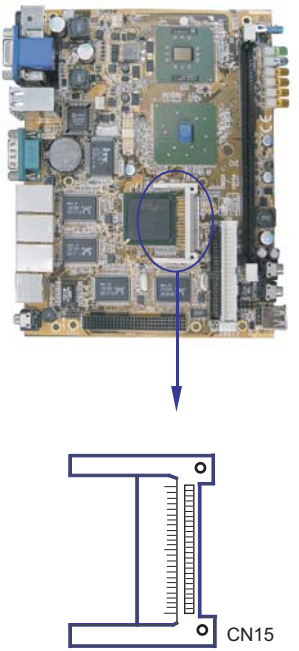




3-4 Compact - Flash Memory Socket

CI852A configures CompactFlash Storage Card in IDE mode. It will use IDE channel when CompactFlash card is plugged in. This socket supports CF Card Type I/II socket spec.
CF Socket 50pin----CN15

PIN NO.	Description	PIN NO.	Description
1	GND	26	-CD1
2	DATA3	27	DATA11
3	DATA4	28	DATA12
4	DATA5	29	DATA13
5	DATA6	30	DATA14
6	DATA7	31	DATA15
7	-CS0	32	-CS1
8	NC(A10)	33	-VS1
9	-ATA SEL	34	-IOR
10	NC(A9)	35	-IOW
11	NC(A8)	36	-WE(PH)
12	NC(A7)	37	INTR
13	VCC	38	VCC
14	NC(A6)	39	-CSEL
15	NC(A5)	40	NC(-VS2)
16	NC(A4)	41	RESET
17	NC(A3)	42	IORDY
18	SDA2	43	NC
19	SDA1	44	-REG(PH)
20	SDA0	45	-DASP
21	DATA0	46	-PDIAG
22	DATA1	47	DATA8
23	DATA2	48	DATA9
24	-IOCS16	49	DATA10
25	-CD2	50	GND



Note * : Refer JCF1 /JCF2 Jumper set

3-5 Serial Port Connector / VGA Connector

CN6: COM1 DB9 Connector up side (D SUB 9PIN)
RS232 Mode

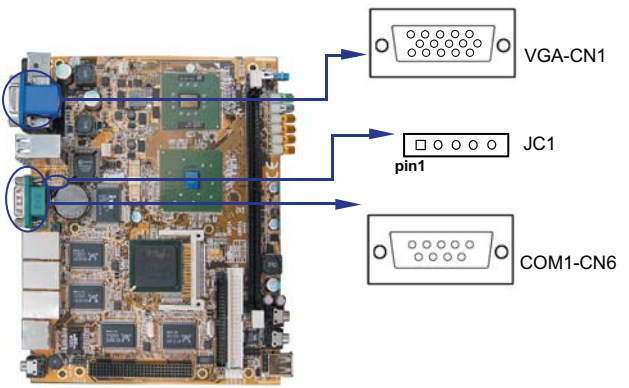
PIN NO.	Description	PIN NO.	Description
1	DCD	2	RXD
3	TXD	4	DTR
5	GND	6	DSR
7	RTS	8	CTS
9	RI	10	NC

JC1: COM1 TX/RX Connector --- 5pin(1.25mm Wafer connector)

PIN NO.	1	2	3	4	5
Description	+5V	GND	RTS	TX	RX

CN1: VGA DB15 Connector down side (D SUB 15PIN)

PIN NO.	Description	PIN NO.	Description	PIN NO.	Description
1	RED	6	GND	11	NC
2	GREEN	7	GND	12	DDC DATA
3	BLUE	8	GND	13	H-SYNC
4	NC	9	NC	14	V-SYNC
5	GND	10	GND	15	DDC CLOCK



3-6 Keyboard and Mouse Connector

CN1: PS2 Keyboard down side (Din 6 pin jack)

PIN NO.	Description
1	KB DATA
2	NC
3	GND
4	+5V
5	KB CLOCK
6	NC

CN1: PS2 Mouse down side (Din 6 pin jack)

PIN NO.	Description
1	MS DATA
2	NC
3	GND
4	+5V
5	MS CLOCK
6	NC

3-7 USB Port/ Header

CN7: USB 0/1/2/3 port Type A Jack

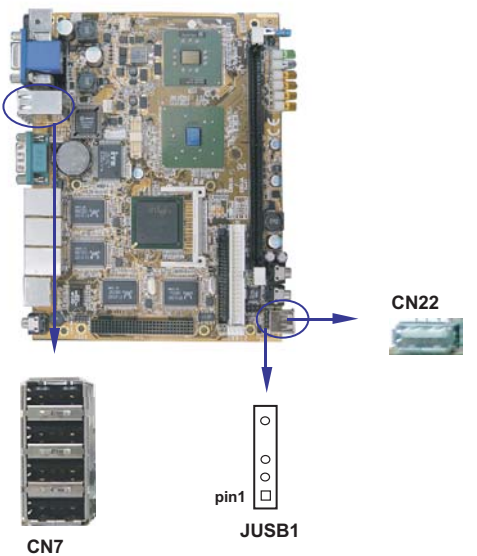
PIN NO.	Description
1	+5V
2	USB DATA0/1/2/3-
3	USB DATA0/1/2/3+
4	GND

CN22: USB 4 port Type A Jack

PIN NO.	Description
1	+5V
2	USB DATA 4-
3	USB DATA 4+
4	GND

JUSB1/JUSB2 USB 4/5 port Connector(2.54mm)

PIN NO.	Description
1	+5V
2	USB DATA4/5-
3	USB DATA4/5+
4	KEY
5	GND



3-8 LAN Port

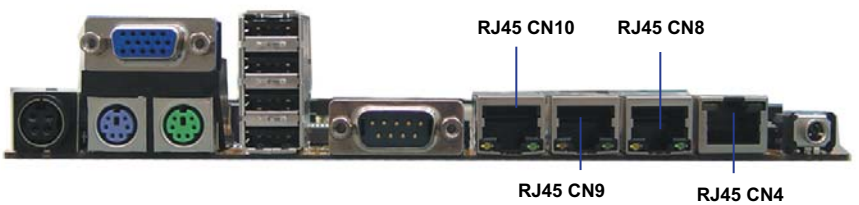
The Fast Ethernet controller provides 32-bit performance, PCI bus master capability, and full compliance with IEEE 802.3 10/100Based-T specification.
For 10/100Base-T operation, please connect the network connection by plugging one end of the cable into the RJ-45 jack of the CN10,CN9,CN8,CN4 Connector.
Besides 10/100 Base-T, CI852A can provide Giga LAN solution through CN10,CN9,CN8,CN4 once equipped with Intel 82541GI/PI/ER chipset.

- **RJ45 LAN Connector--- CN10/9/8/4 RJ45 Giga/100MB Connector**

PIN NO.	Description	PIN NO.	Description
1	TD0-/TX+	5	TD2-/NC
2	TD0+/TX-	6	TD2+RX-
3	TD1-/RX+	7	TD3-/NC
4	TD1+NC	8	TD3+/NC

- **CN4: Giga/100Mb LAN4 Header (2x4 Header 2.0mm)** (for option use)

PIN NO.	Description	PIN NO.	Description
1	TD0-/TX+	5	TD0-/TX+
2	TD1+NC	6	TD2+RX-
3	TD2-/NC	7	TD1-/RX+
4	TD3+/NC	8	TD3+/NC



LAN Led

RJ45 LAN Connector--- LED define Giga/100/10MB Conector

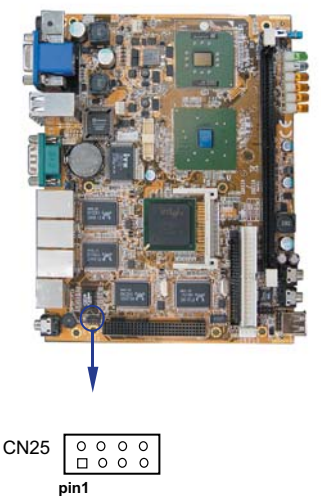
Back side connector	RED LED	GREEN LED	YELLOW LED
Indicate	GIGA LAN Link(light)	100Mb LAN Link(light)	10Mb LAN Link(light)
Fron side	LAN1/2/3/4 or LAN1 LED Header		
Indicate	LAN10/100/1000BT Actived (light)		

RJ45 LAN Connector--- LED define 10/100MB Conector

Back side connector		GREEN LED	YELLOW LED
Indicate		100Mb LAN Link(light)	10Mb LAN Link(light)
Fron side	LAN1/2/3/4 or LAN1 LED Header		
Indicate	LAN10/100BT Actived (light)		

CN25: LAN link LED (2x4 Header 2.0mm)

PIN NO.	Description	PIN NO.	Description
1	LAN1 LED+	2	LAN1 LED-
3	LAN2 LED+	4	LAN2 LED-
5	LAN3 LED+	6	LAN3 LED-
7	LAN4 LED+	8	LAN4 LED-

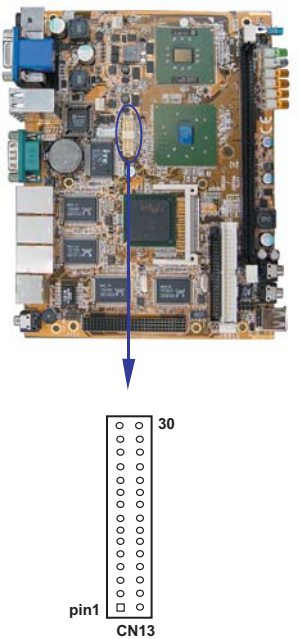


3-9 LVDS Interface Connector

CN13: LVDS interface connector

Digital Front Panel interface connector (2x15 pin wafer 1.25mm)

PIN NO.	Description	PIN NO.	Description
1	DDC-CLK	2	DDC-DATA
3	NC	4	NC
5	Channel-1-DATA3+	6	Channel-0-DATA3+
7	Channel-1-DATA3-	8	Channel-0-DATA3-
9	Channel-0-DATA2+	10	Channel-0-CLK+
11	Channel-0-DATA2-	12	Channel-0-CLK-
13	GND	14	GND
15	Channel-0-DATA1+	16	Channel-0-DATA0+
17	Channel-0-DATA1-	18	Channel-0-DATA0-
19	GND	20	GND
21	+LCD(5Vor 3.3V)*	22	+LCD(5Vor 3.3V)*
23	Channel-1-DATA2+	24	Channel-1-CLK+
25	Channel-1-DATA2-	26	Channel-1-CLK-
27	Channel-1-DATA1+	28	Channel-1-DATA0+
29	Channel-1-DATA1-	30	Channel-1-DATA0-

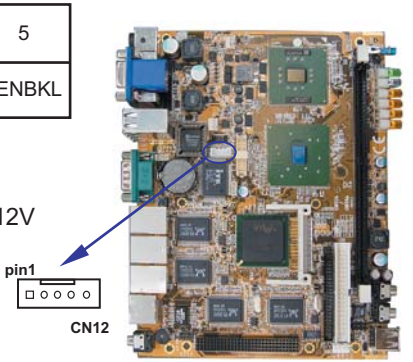


Note * : Refer JV1 Jumper set

3-10 Panel Power Connector

CN12: Panel Power Connector --- 1x5Pin (2.0mm)

PIN NO.	1	2	3	4	5
Description	+12V	GND	BRIGHT	GND	ENBKL



PIN 3 default pull Low

Note :

DC-in +12V by switch to LVDS Inverter power +12V

So DC-in need stable +12V input

3-11 DC 12V IN and DC out

- **CN3: DC 12V-IN Connector (4pin mini den connector)**

PIN NO.	Description
1,2	+12V DC-IN
3	NC
4	GND

- **CN5: DC 12V-IN Internal Connector (4pin connector) (For option connector)**

PIN NO.	Description
3,4	+12V DC-IN
1,2	GND

- **CN26: DC 12V-IN Internal Connector (2pin Wafer 2.0mm)**

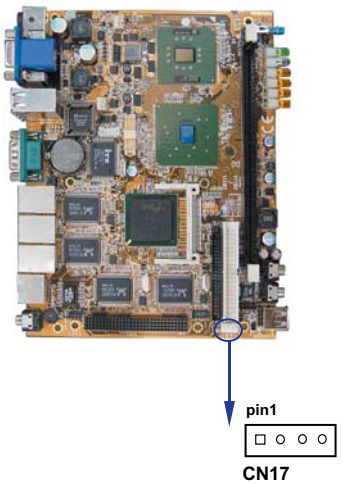
PIN NO.	Description
1	+12V DC-IN
2	GND

! Danger : CN26 voltage from DC-in Voltage

3-12 DC +5/+12V output connector

- **CN17 : DC +5/+12V output connector(2.5mm Wafer)**

PIN NO.	Description
1	+5V
2	GND
3	GND
4	+12V*



3-13 Audio Port Connector

The CI852A has an on-board AC'97 3D sound interface. There are the connectors of LINE OUT, MIC-IN and CD-IN connectors.
The MIC-IN Jack and CD-IN header are for audio sound input. The LINE-OUT connector is a 4-pin Jack for audio sound output.

CN2/CN24: Speak out connector

- **CN24(Phone Jack) -----Line-OUT**
  (3.5mm Phone jack or 5pin 2.54mm header)

PIN NO.	Description
1	GND
2	FRONT OUT-L
3	NC
4	NC
5	FRONT OUT-R

- **CN23 (Phone Jack) -----MIC-IN**
  (3.5mm Phone jack or 5pin 2.54mm header)

PIN NO.	Description
1	GND
2	MIC-PW
3	GND
4	NC
5	MIC-IN

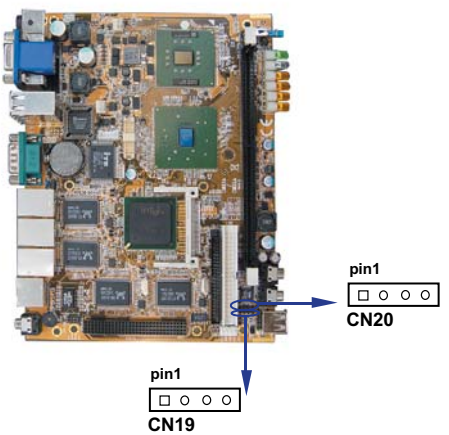
CN2 share to CN24

- **CN20 (2.54mm 4pin header)-----CD-IN**

PIN NO.	Description
1	CD-L
2	GND
3	GND
4	CD-R

- **CN19 (2.54mm 4pin header)-----LINE-IN**

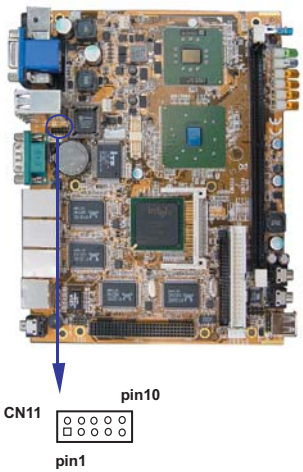
PIN NO.	Description
1	Line in-L
2	GND
3	GND
4	Line in-R



3-14 WDT/DIO Function port (Option)

. **CN11: WDT/DIO option Function port (2 x 5 2.0mm Header)**
Digital 4 Input and 4 Output Connector

PIN NO.	Description	PIN NO.	Description
1	DI-0	2	DO-3
3	DI-1	4	DO-2
5	DI-2	6	DO-1
7	DI-3	8	DO-0
9	GND	10	+5V



Software Port Address For DIO Description

Write port 60C H	Bit 3	Bit 2	Bit 1	Bit 0
PIN NO (OUTPUT)	DO-3	DO-2	DO-1	DO-0

Logic 0 Level :+0.5V Max , Logic 1 Level : +4V Min

Read port 608H	Bit 3	Bit 2	Bit 1	Bit 0
PIN NO (INPUT)	DI-3	DI-2	DI-1	DI-0

Logic 0 Level :+0.5V Max , Logic 1 Level : +4V Min

Software Port Address For WDT/DIO Description

Software Port address	DESCRIPTION
600H	ENABLE WDT Timer 0-255 Sec.
604H	DISABLE WDT Timer

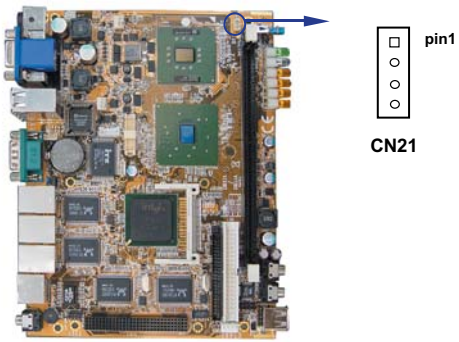
The system will reset .when WDT is enable, and the hardware start down counter reaches zero
Follow test:

```
>debug
-O  600  01   ; Enable WDT 00-FF  00sec to 255 sec
-I   604      ; Disable WDT
-O  60C  0F   ; Output DO 0-3 all Hi level ,(DO 4 -7 no use)
-I   608      ; Input DI 0-3 all Hi level ,(DI 4 -7 no use)
-0F           ; DI 0 - 3 all pin is Hi
```

3-15 I²C Bus connector

- **CN21: I²C Bus connector 4pin (1.25mm Wafer connector)**

PIN NO.	Description
1	+3.3V
2	GND
3	I2C CLK
4	I2C DATA



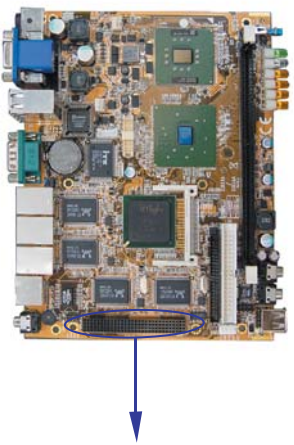
3-16 PC104 plus

- **CN14 : PC104 plus 120 pin socket**

PIN NO.	A	B	C	D
1	GND	Reserved	+5V	AD00
2	VI/O	AD02	AD01	+5V
3	AD05	GND	AD04	AD03
4	C/BE0#	AD07	GND	AD06
5	GND	AD09	AD08	GND
6	AD11	VI/0	AD10	M66EN
7	AD14	AD13	GND	AD12
8	+3.3V	C/BE1#	AD15	+3.3V
9	SERR#	GND	Reserved	PAR
10	GND	PERR#	+3.3V	Reserved
11	STOP#	+3.3V	LOCK#	GND
12	+3.3V	TRDY#	GND	DEVSEL#
13	FRAME#	GND	IRDY#	+3.3V
14	GND	AD16	+3.3V	C/BE2#
15	AD18	+3.3V	AD17	GND
16	AD21	AD20	GND	AD19
17	+3.3V	AD23	AD22	+3.3V
18	IDSEL0	GND	IDSEL1	IDSEL2
19	AD24	C/BE3#	VI/O	IDSEL3
20	GND	AD26	AD25	GND
21	AD29	+5V	AD28	AD27
22	+5V	AD30	GND	AD31
23	REQ0#	GND	REQ1#	VI/O
24	GND	REQ2#	+5V	GNT0#
25	GNT1#	VI/O	GNT2#	GND
26	+5V	CLK0	GND	CLK1
27	CLK2	+5V	CLK3	GND
28	GND	INTD#	+5V	RST#
29	+12V*	INTA#	INTB#	INTC#
30	NC(-12V)	REQ3#	GNT3#	GND

Note : VI/O is +5V , Don't support -12V and -5V

* Note : DC in +12V by switch to PC 104 plus +12V
So DC in need stable +12V input



CN14 : PC104 plus

3-17 Front-Panel

1. Power switch: PW-ON--- SW1

JSW1: Power on switch

Based on case design , there may be a power switch or a 2-pin header connected to the case-mounted power switch. It is used to power ON/OFF the system.

2. Power LED: PW-LED

The Power LED is lit while the system power is on.

3. IDE Activity LED: HDD-LED

HDD-LED shows the activity of the hard disk.

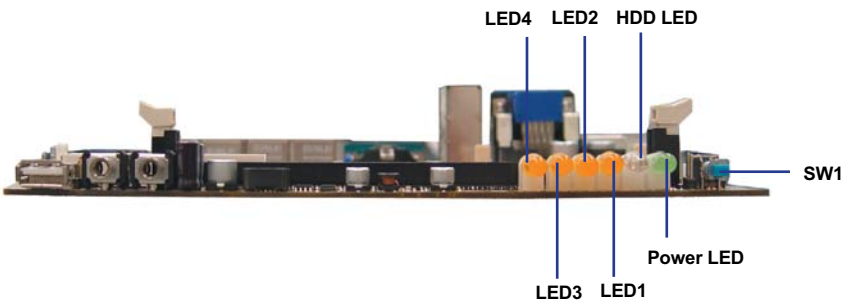
4. LAN LED Activity LED: LAN- LED----LED1

LAN 1 LED shows the activity of network

LAN2 LED--LED2

LAN3 LED--LED3

LAN4 LED--LED4



Chapter 4

Introduction of BIOS

The BIOS is a program located in the Flash Memory on the motherboard. This program is a bridge between motherboard and operating system. When you start the computer, the BIOS program gains control. The BIOS first operates an auto-diagnostic test called POST (Power on Self Test) for all the necessary hardware, it detects the entire hardware devices and configures the parameters of the hardware synchronization. After these tasks are completed, BIOS will give control of the computer back to operating system (OS). Since the BIOS is the only channel for hardware and software to communicate with, it is the key factor of system stability and of ensuring your system performance at best.

In the BIOS Setup main menu of page 43, you can see several options. We will explain these options in the following pages. First, let us see the function keys you may use here:

- Press <Esc> to quit the BIOS Setup.
- Press ↑↓←→ (up, down, left, right) to choose the option you want to confirm or modify.
- Press <F10> to save these parameters and to exit the BIOS Setup menu after you complet the setup of BIOS parameters.
- Press Page Up/Page Down or +/- keys to modify the BIOS parameters for the active option.

4-1 Enter Setup

Power on the computer and press <Del> immediately to enter Setup.

If the message disappears before your respond but you still wish to enter Setup, restart the system by turning it OFF then ON button on the system case. You may also restart the system by simultaneously pressing <Ctrl>, <Alt> and <Delete> keys. If you do not press the keys at the proper time and the system does not boot, an error message will display and you will be asked to

Press <F1> to continue, <Ctrl-Alt-Esc> or <Del> to enter Setup

4-2 Getting Help

Main Menu

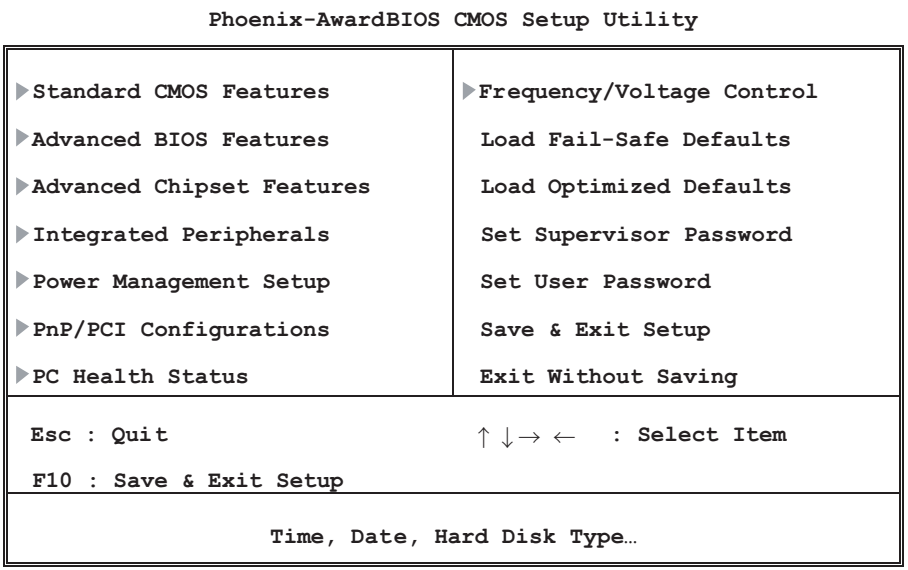
The on-line description of the highlighted setup function is displayed at the bottom of the screen.

Status Page Setup Menu/ Option Page Setup Menu

Press F1 to pop up a small help window that describes the appropriate keys to use and the possible selections for the highlighted item.
To exit the Help Window, press <Esc>.

4-3 The Main Menu

Once you enter Award BIOS CMOS Setup Utility, the Main Menu will appear on the screen. The Main Menu has fourteen setup functions and two exit choices.
Use arrow keys to select among these items. Press <Enter> to accept or enter the sub-menu.



Standard CMOS Features
This Menu is for basic system configurations.

Advanced BIOS Features
This menu is to set the Advanced Features available in your system.

Advanced Chipset Features
This menu is to change the values in the chipset registers and optimize your system performance.

Integrated Peripherals
This menu is to specify your settings for integrated peripherals.

Power Management Setup
This menu is to specify your settings for power management.

PnP/PCI configurations
This entry appears if your system supports PnP/PCI.

PC Health Status
This entry shows your PC health status.

Frequency/Voltage Control
This menu is to specify your settings for Miscellaneous Control.

Load Optimized Defaults
Use this menu to load the BIOS default values that are settings for optimal performances system operations.

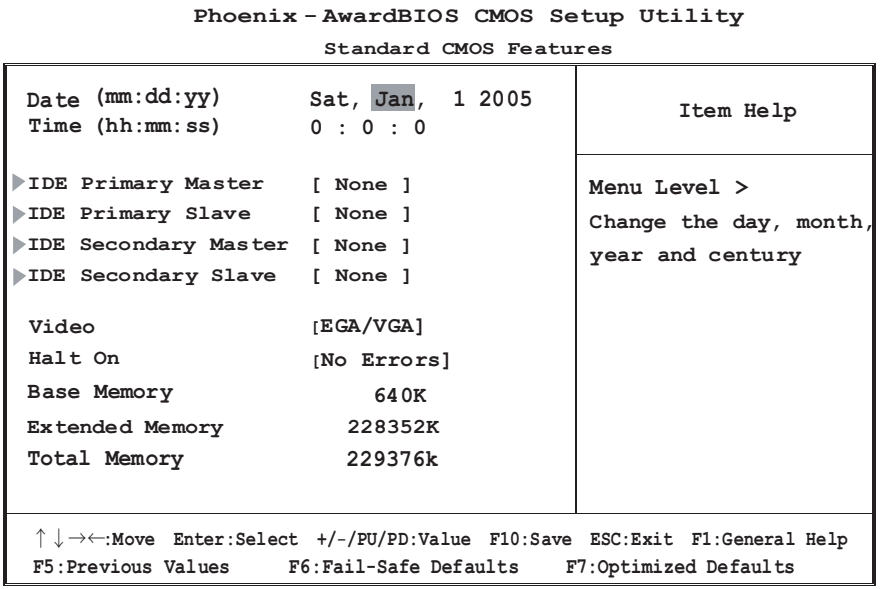
Set Supervisor/User Password
This menu is to set User and Supervisor Passwords.

Save & Exit Setup
Save CMOS values modified to CMOS and exit setup.

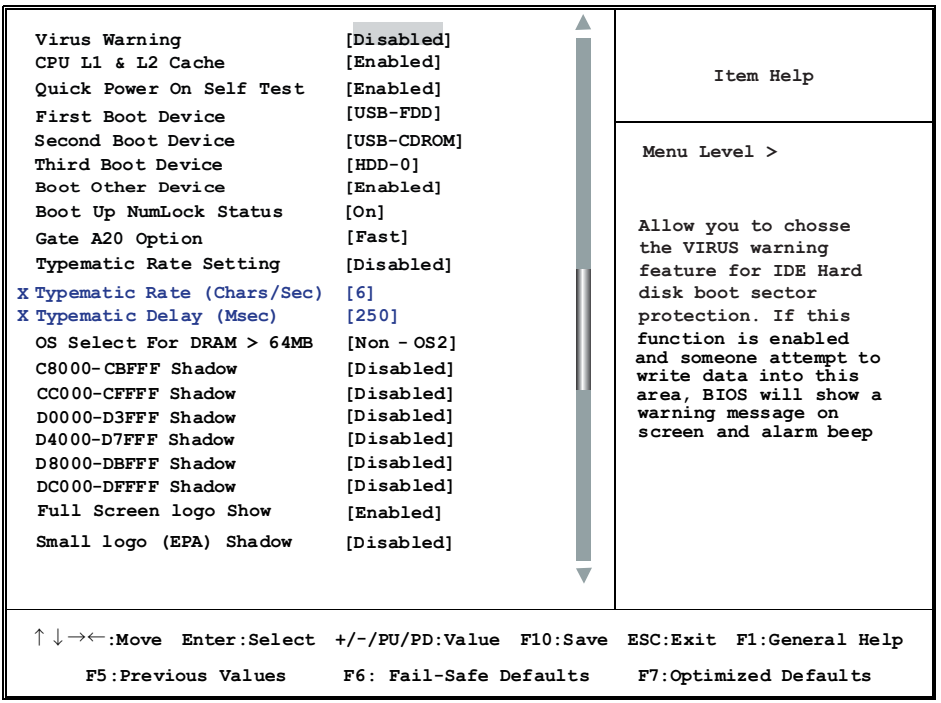
Exit Without Saving
Abandon all the CMOS values modified and exit setup.

4-4 Standard CMOS Features

The items in Standard CMOS Setup Menu are divided into several categories. Each category includes, one or more than one setup items. Use the arrow keys to highlight the item and then use the <PgUp> or <PgDn> keys to select the value you want to modify with this item.


Phoenix - AwardBIOS CMOS Setup Utility
Standard CMOS Features
Date (mm:dd:yy) Sat, Jan, 1 2005
Time (hh:mm:ss) 0 : 0 : 0
IDE Primary Master [None]
IDE Primary Slave [None]
IDE Secondary Master [None]
IDE Secondary Slave [None]
Video [EGA/VGA]
Halt On [No Errors]
Base Memory 640K
Extended Memory 228352K
Total Memory 229376k
Item Help
Menu Level >
Change the day, month, year and century
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

4-5 Advanced BIOS Features


Virus Warning [Disabled]
CPU L1 & L2 Cache [Enabled]
Quick Power On Self Test [Enabled]
First Boot Device [USB-FDD]
Second Boot Device [USB-CDROM]
Third Boot Device [HDD-0]
Boot Other Device [Enabled]
Boot Up NumLock Status [On]
Gate A20 Option [Fast]
Typematic Rate Setting [Disabled]
X Typematic Rate (Chars/Sec) [6]
X Typematic Delay (Msec) [250]
OS Select For DRAM > 64MB [Non - OS2]
C8000-CBFFF Shadow [Disabled]
CC000-CFFFF Shadow [Disabled]
D0000-D3FFF Shadow [Disabled]
D4000-D7FFF Shadow [Disabled]
D8000-DBFFF Shadow [Disabled]
DC000-DFFFF Shadow [Disabled]
Full Screen logo Show [Enabled]
Small logo (EPA) Shadow [Disabled]
Item Help
Menu Level >
Allow you to chosse the VIRUS warning feature for IDE Hard disk boot sector protection. If this function is enabled and someone attempt to write data into this area, BIOS will show a warning message on screen and alarm beep
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F6: Fail-Safe Defaults F7:Optimized Defaults

Virus Warning

The VIRUS Warning feature can help you protect IDE Hard Disk boot sector. If this function is enabled, BIOS will show a warning message on screen and alarm beep when somenoe attempts to write data into this area without permission.

Disabled (default) No warning message appears when anything attempts to access the boot sector or hard disk partition table.

Enabled Activate automatically when the system boots up. The system will show the warning message if anything attempts to access the boot sector of hard disk partition table.

CPU Internal Cache

The default value is Enabled

Enabled (default) Enable cache

Disabled Disable cache

Note: The internal cache is built on the processor.

Quick Power On Self Test

This category speeds up Power On Self Test (POST) after you power on the computer. If this is set to Enabled. BIOS will shorten or skip some check items during POST.

Enabled (default) Enable quick POST

Disabled Normal POST

First/Second/Third/Fourth Boot Device

The BIOS attempts to load the operating system from the devices in the sequence selected in these items. The settings are Floppy, LS/ZIP, HDD-0/HDD-1/HDD-2/HDD-3, SCSI, CDROM, USB-FDD/USB-ZIP/USB-CDROM/USB-HDD, LAN and Disabled

Boot Up NumLock Status

The default value is On.

On (default) Keypad is numeric keys.

Off Keypad is arrow keys.

Gate A20 Option

Normal The A20 signal is controlled by keyboard controller or chipset hardware.

Fast (default) The A20 signal is controlled by port 92 or chipset specific method.

Typematic Rate Setting

Keystrokes repeat at a rate determined by the keyboard controller. When enabled, the typematic rate and typematic delay can be selected. The settings are: Enabled/Disabled.

Typematic Rate (Chars/Sec)

Sets the number of times a second to repeat a keystroke when you hold the key down. The settings are: 6, 8, 10, 12, 15, 20, 24, and 30.

Typematic Delay (Msec)

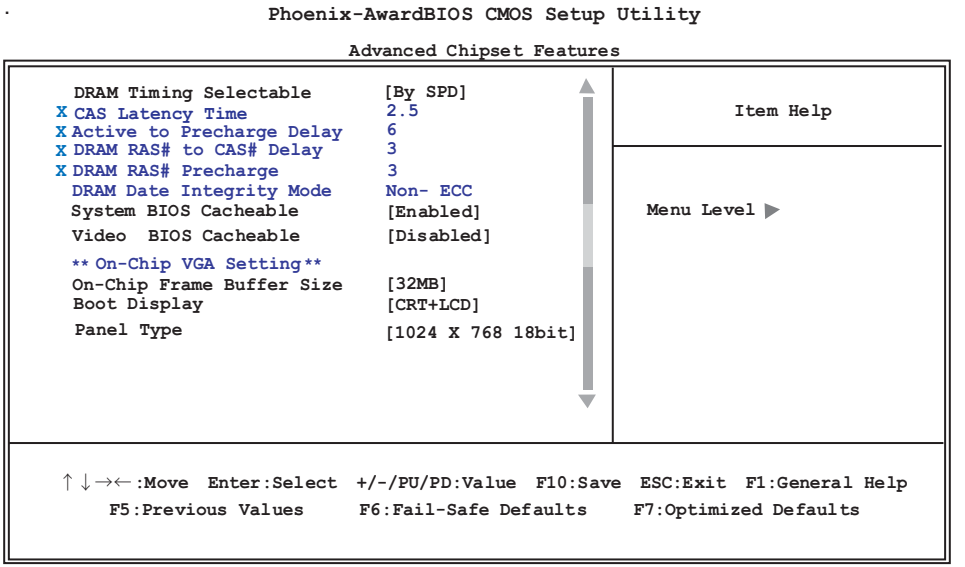
Sets the delay time after the key is held down before is begins to repeat the keystroke. The settings are 250, 500, 750, and 1000.

OS Select For DRAM > 64MB

Allows OS2? to be used with >64MB or DRAM. Settings are Non-OS/2 (default) and OS2. Set to OS/2 if using more than 64MB and running OS/2.

4-6 Advanced Chipset Features

The Advanced Chipset Features Setup option is used to change the values of the chipset registers. These registers control most of the system options in the computer.


Phoenix-AwardBIOS CMOS Setup Utility
Advanced Chipset Features
DRAM Timing Selectable [By SPD]
X CAS Latency Time 2.5
X Active to Precharge Delay 6
X DRAM RAS# to CAS# Delay 3
X DRAM RAS# Precharge 3
DRAM Date Integrity Mode Non- ECC
System BIOS Cacheable [Enabled]
Video BIOS Cacheable [Disabled]
** On-Chip VGA Setting**
On-Chip Frame Buffer Size [32MB]
Boot Display [CRT+LCD]
Panel Type [1024 X 768 18bit]
Item Help
Menu Level ▶
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

System BIOS Cacheable

Selecting Enabled allows caching of the system BIOS ROM at F0000h-FFFFFh, resulting in better system performance. However, if any program writes to this memory area, a system error may result. The settings are: Enabled and Disabled.

Video BIOS Cacheable

Select Enabled allows caching of the video BIOS, resulting in better system performance. However, if any program writes to this memory area, a system error may result. The settings are: Enabled and Disabled.

Boot Display

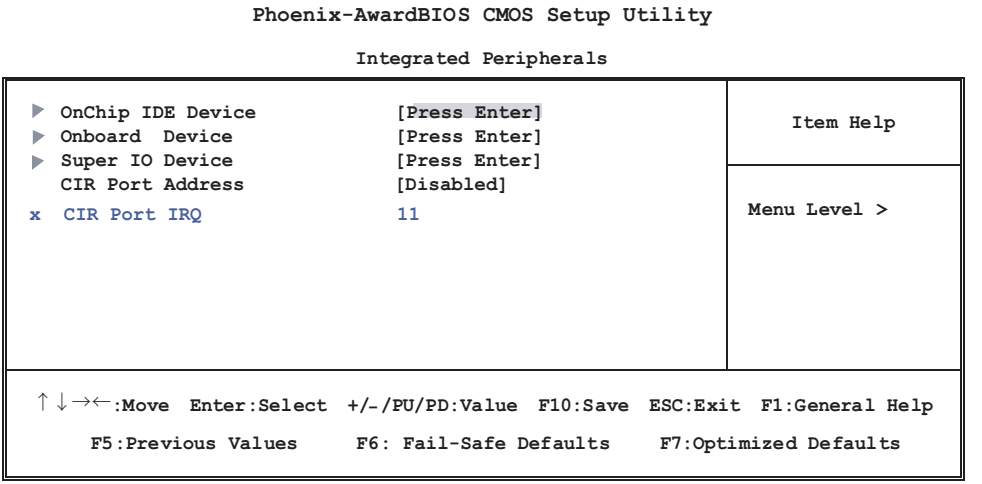
Display Device [CRT / CRT+LCD / LCD]

Bios default [CRT+LCD]

PANEL Type

1. 640 X 480 18bit
2. 800 X 600 18bit
3. 1024 X 768 18bit
4. 1280 X 1024 18bit

4-7 Integrated Peripherals


Phoenix-AwardBIOS CMOS Setup Utility
Integrated Peripherals
OnChip IDE Device [Press Enter]
Onboard Device [Press Enter]
Super IO Device [Press Enter]
CIR Port Address [Disabled]
x CIR Port IRQ 11
Item Help
Menu Level >
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F6: Fail-Safe Defaults F7:Optimized Defaults

OnChip IDE Function

Please refer to section 4-7-1

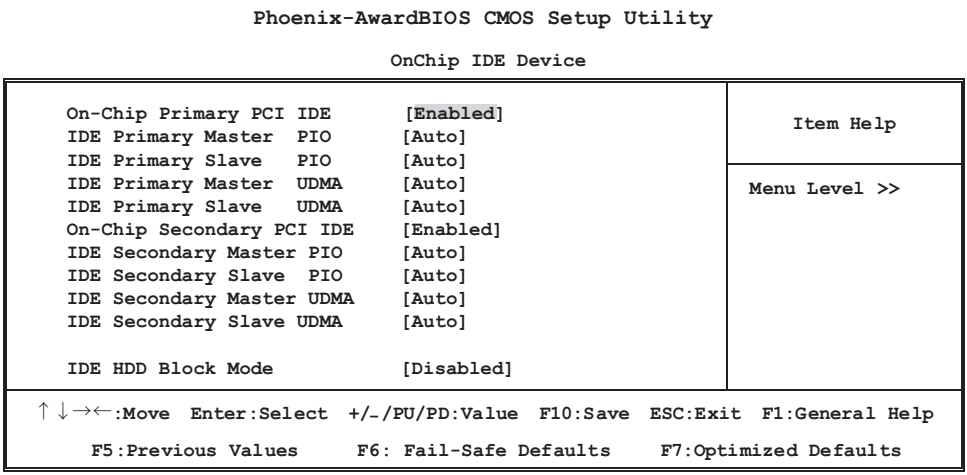
Onboard Device Function

Please refer to section 4-7-2

Onboard Super IO Function

Please refer to section 4-7-3

4-7-1 OnChip IDE Device


Phoenix-AwardBIOS CMOS Setup Utility
OnChip IDE Device
On-Chip Primary PCI IDE [Enabled]
IDE Primary Master PIO [Auto]
IDE Primary Slave PIO [Auto]
IDE Primary Master UDMA [Auto]
IDE Primary Slave UDMA [Auto]
On-Chip Secondary PCI IDE [Enabled]
IDE Secondary Master PIO [Auto]
IDE Secondary Slave PIO [Auto]
IDE Secondary Master UDMA [Auto]
IDE Secondary Slave UDMA [Auto]
IDE HDD Block Mode [Disabled]
Item Help
Menu Level >>
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F6: Fail-Safe Defaults F7:Optimized Defaults

OnChip IDE Primary/Secondary

The integrated peripheral controller contains an IDE interface with support for two IDE channels. Select Enabled to activate each channel separately. The settings are: Enabled and Disabled.

Primary/Secondary Master/Slave PIO

The four IDE PIO (Programmed Input/Output) fields let you set a PIO mode (0-4) for each of the four IDE devices that the onboard IDE interface supports. Modes 0 through 4 provide successively increased performance. In Auto mode, the system automatically determines the best mode for each device. The settings are: Auto, Mode 0, Mode 1, Mode 2, Mode 3, Mode 4.

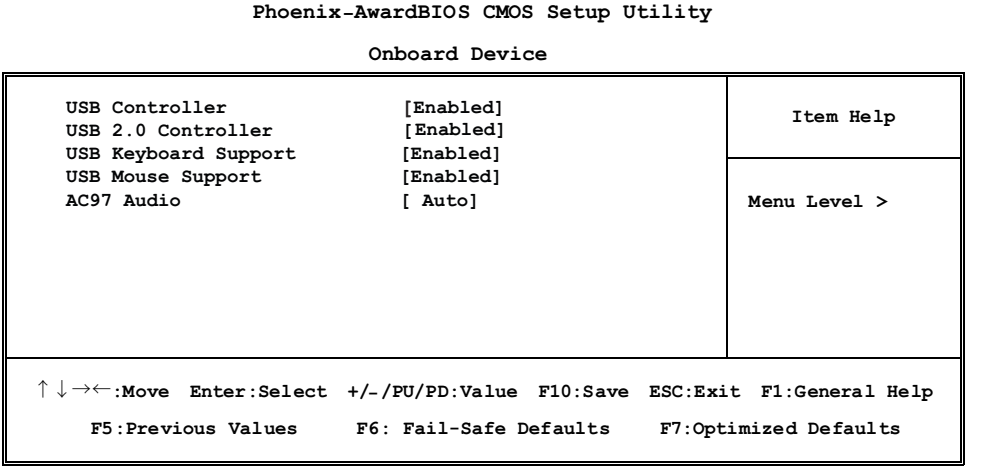
Primary/Secondary Master/Slave UDMA

Ultra DMA/33 implementation is possible only if your IDE hard drive supports it and the operating environment includes a DMA driver (Windows 95 OSR2 or a third-party IDE bus master driver). If your hard drive and your system software both support Ultra DMA/33 and Ultra DMA/66, select Auto to enable BIOS support. The settings are: Auto, Disabled.

IDE HDD Block Mode

Block mode is also called block transfer, multiple commands, or multiple sector read/write. If your IDE hard drive supports block mode (most new drives do), select Enabled for automatic detection of the optimal number of block read/writes per sector the drive can support. The settings are: Enabled, Disabled.

4-7-2 Onboard Driver Function


Phoenix-AwardBIOS CMOS Setup Utility
Onboard Device
USB Controller [Enabled]
USB 2.0 Controller [Enabled]
USB Keyboard Support [Enabled]
USB Mouse Support [Enabled]
AC97 Audio [Auto]
Item Help
Menu Level >
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F6: Fail-Safe Defaults F7:Optimized Defaults

USB Controller/USB 2.0 Controller

Select Enabled if your system contains a Universal Serial Bus (USB) controller and you have a USB peripherals. The settings are: Enabled, Disabled.

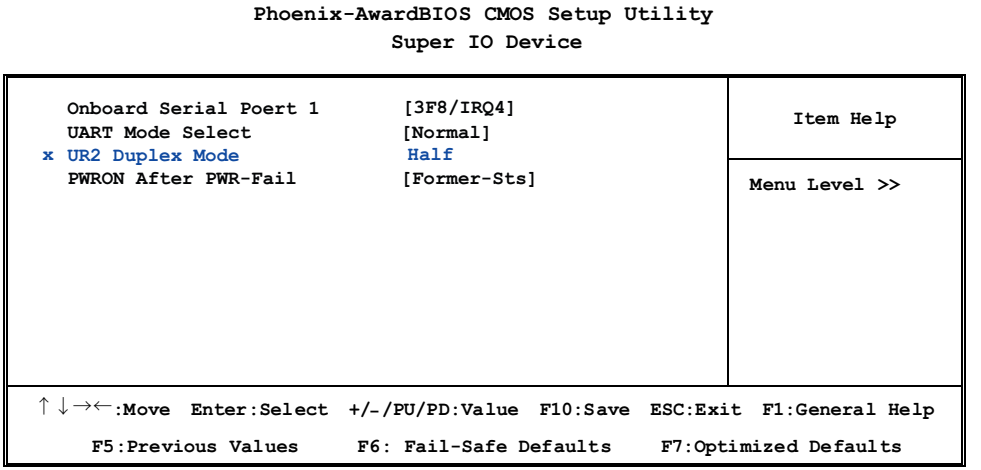
USB Keyboard Support/ USB MOUSE Support

Select Enabled if your system contains a Universal Serial Bus (USB) controller and you have a USB keyboard or USB mouse. The settings are: Enabled, Disabled.

AC97 Audio

This item is setting on board AC97 Audio Auto/disabled. The settings are: Disabled, Auto

4-7-3 Onboard Super IO Function


Phoenix-AwardBIOS CMOS Setup Utility
Super IO Device
Onboard Serial Poert 1 [3F8/IRQ4]
UART Mode Select [Normal]
x UR2 Duplex Mode Half
PWRON After PWR-Fail [Former-Sts]
Item Help
Menu Level >>
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F6: Fail-Safe Defaults F7:Optimized Defaults

Onboard Serial Port 1

Select an address and corresponding interrupt for the first and the second serial ports. The settings are: 3F8/IRQ4, 2E8/IRQ3, 3E8/IRQ4, 2F8/IRQ3, Disabled, Auto.

UART Mode Select

This item allows you to determine which InfraRed(IR) function of the onboard I/O chip, this functions uses.

4-8 Power Management Setup

The Power Management Setup allows you to configure your system to most effectively save energy saving while operating in a manner consistent with your own style of computer use.

```
                    Phoenix-AwardBIOS CMOS Setup Utility
                          Power Management Setup

  ACPI Function              [Enabled]          |   Item Help
  ACPI Suspend Type          [S1(POS)]          |
  Power Management           [User Define]      |  Menu Level >
  Video Off Method           [DPMS]             |
  Video Off In Suspend       [Yes]              |
  MODE Use IRQ               [3]                |
  Suspend Mode               [Disable]          |
  HDD Power Down             [Disable]          |
  Soft-Off by RWR-BTT        [Instant-Off]      |
  Wake-Up by PCI card        [Disable]          |
  Power On by Ring           [Disable]          |
  Resume by Alarm            [Disable]          |
x Date (of Month)Alarm       0                  |
x Time (hh:mm:ss)Alarm       0: 0: 0            |

  ** Reload Global Timer Events**
  Primary IDE 0              [Disabled]
  Primary IDE 1              [Disabled]
  Secondary IDE 0            [Disabled]
  Secondary IDE 1            [Disabled]
  FDD, COM, LPT Port         [Disabled]
  PCI PIRQ[A-D]#             [Disabled]

↑↓→←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help
   F5:Previous Values     F6: Fail-Safe Defaults     F7:Optimized Defaults
```

ACPI Function

This item allows you to Enabled/Disabled the Advanced Configuration and Power Management (ACPI). The settings are Enabled and Disabled.

ACPI Suspend Type

This item allows you to select ACPI Suspend Type.

The setting is: S1(POS)

Video Off Method

This determines the manner in which the monitor is blanked.

DPMS (default) Initial display power management signaling.

Blank Screen This option only writes blanks to the video buffer.

V/H SYNC+Blank This selection will cause the system to turn off the vertical and horizontal synchronization ports and write blanks to the video buffer.

Video Off in Suspend

This determines the manner in which the monitor is blanked. The choice are Yes → Video will off , and No→ Video always On.

Modem Use IRQ

This determines the IRQ in which the MODEM can use.

The settings are: 3, 4, 5, 7, 9, 10, 11, NA.

Wake-Up by PCI card /Power On by Ring

During Disabled, the system will ignore any incoming call from the PCI card/modem. During Enabled, the system will boot up if there's an incoming call from the PCI card /modem.

Resume by Alarm

This function is for setting date and time for your computer to boot up. During Disabled, you cannot use this function. During Enabled, choose the Date and Time Alarm:

Date(of month) Alarm

You can choose which month the system will boot up. Set to 0, to boot every day.

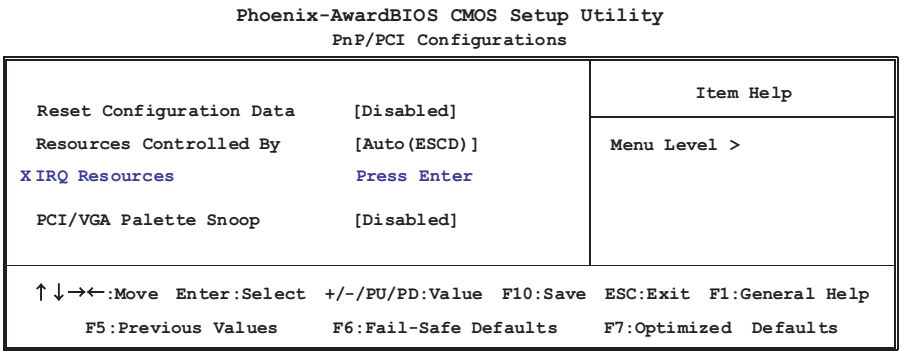
Time(hh:mm:ss) Alarm

You can choose what hour, minute and second the system will boot up.

Note: If you have change the setting, you must let the system boot up until it goes to the operating system, before this function will work

4-9 PnP / PCI Configuration Setup

This section describes how to configure the PCI bus system. PCI, or Personal Computer Interconnect, is a system which allows I/O devices to operate at the speed the CPU itself keeps when CPU communicates with its own special components. This section covers some very technical items and we strongly recommended that only experienced users should make any change to the default settings.


Phoenix-AwardBIOS CMOS Setup Utility
PnP/PCI Configurations
Item Help
Reset Configuration Data [Disabled]
Resources Controlled By [Auto(ESCD)]
Menu Level >
X IRQ Resources Press Enter
PCI/VGA Palette Snoop [Disabled]
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

Reset Configuration Data

Normally, you leave this field Disabled. Select Enabled to reset Extended System Configuration Data (ESCD) when you exit Setup if you have installed a new add-on and the system reconfiguration has caused such a serious conflict that the operating system can not boot. The settings are: Enabled and Disabled.

Resource Controlled By

The Award Plug and Play BIOS can automatically configure all of the boot and Plug and Play compatible devices. However, this capability means absolutely nothing unless you are using a Plug and Play operating system such as Windows 95/98/ME/2000/XP. If you set this field to "manual", choose a specific resource by going into each sub menu that follows this field (a sub menu is preceded by a ">").
The settings are Auto (ESCD) or Manual.

IRQ Resources

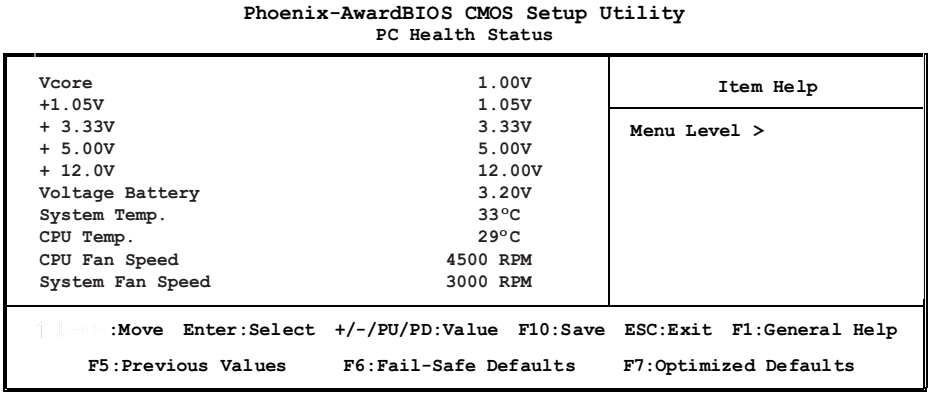
When resources are controlled manually, each system interrupt is assigned a type, depending on the type of device using the interrupt.

PCI/VGA Palette Snoop

Leave this field at Disabled. The settings are Enabled or Disabled.

4-10 PC Health Status

This section shows the status of your CPU, Fan, and overall system.
This is only available when there is Hardware Monitor function onboard.

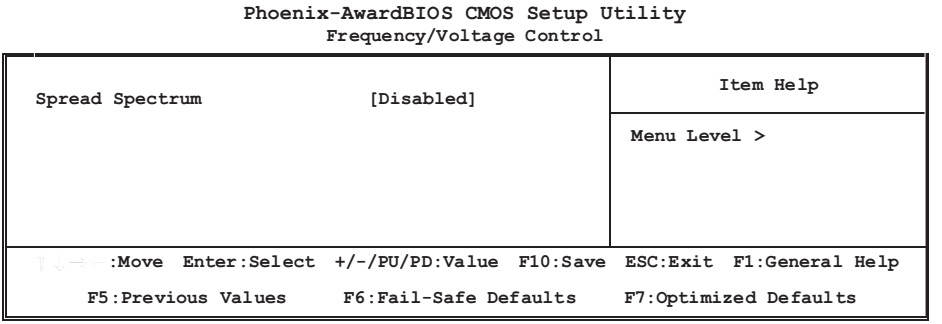


Current CPU Temperature/Current System Temp/Current FAN1,FAN2 Speed/ Vcore/+1.05V/+3.3V/+5V/+12V

This will show the CPU/FAN/System voltage chart and FAN Speed

4-11 Frequency/Voltage Control

This section is to set CPU Frequency Control.



Spread Spectrum

This item allows you to set the CPU Host/PCI clock Spread Spectrum.
The choice are Disabled or Enabled.

4-12 Load Optimized Defaults

Load Standard Defaults

Load Optimized Defaults

When you press <Enter> on this item, you get a confirmation dialog box with a message similar to:

Load Optimized Defaults (Y/N)? N

Press <Y> to load the default values that are factory settings for optimal system operation performance.

4-13 Set Supervisor/ User Password

You can set supervisor password, user password, or both. The differences are:

Supervisor password: You can enter the setup menus and change the options.

User password: You can enter the setup menus but do not have the right to change the options. When you select this function, the following message will appear at the center of the screen to assist you in creating a password.

ENTER PASSWORD:

Type the password, up to eight characters in length, and press <Enter>. The password typed will clear any previous password from CMOS memory. You will be asked to confirm the password. Type the password again and press <Enter>. You may also press <Esc> to abort the selection without entering password.

To disable a password, just press <Enter> when you are prompted to enter the password. A message will confirm if you want to disable the password. Once the password is disabled, the system will boot and you can enter Setup menus freely.

PASSWORD DISABLED.

When a password has been enabled, you have to enter it every time before you enter the Setup. This prevents an unauthorized person from changing any part of your system configuration.

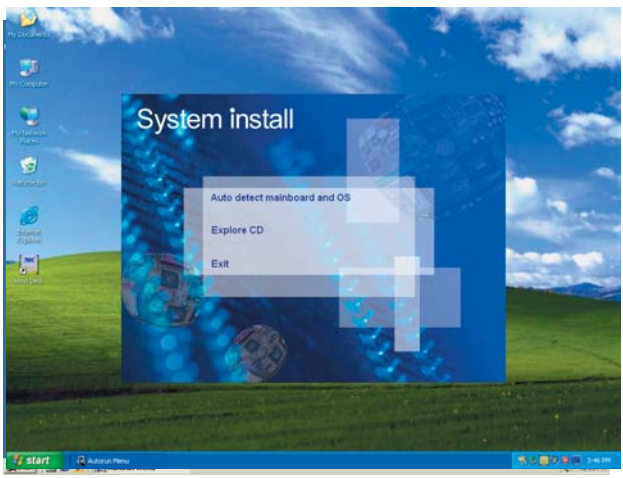
Chapter5

DRIVER & FREE PROGRAM INSTALLATION

There is a SYSTEM INSTALL CD disk in the package. This CD has all the drivers you need and some free application programs and utility programs. In addition, this CD also includes an auto-detect software which can tell you which hardware is installed and which driver is needed so that your system can function properly.
We call this auto detect software SYSTEM INSTALL.

SYSTEM INSTALL Supports WINDOWS 95/98/98SE/ME/NT4.0/2000/XP

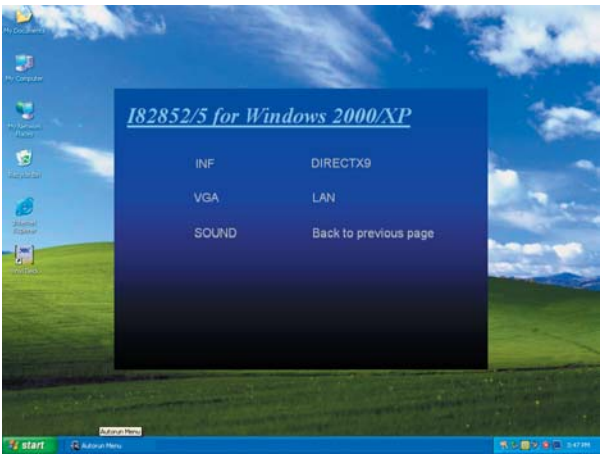
Insert the CD into your CD-ROM drive and the SYSTEM INSTALL Menu should appear as below. If the menu does not appear, double-click MY COMPUTER and double-click CD-ROM drive or click START, click RUN, and type X:\SETUP.EXE (assuming X is your CD-ROM drive).



From SYSTEM INSTALL MENU you may make 3 selections:

1 . Auto detect main board and OS Into auto install driver Menu
2 . Explore CD to explore the contents of the CD
3 . EXIT to exit from SYSTEM INSTALL menu

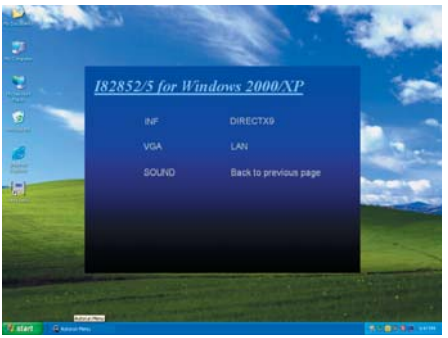
Auto install driver Menu



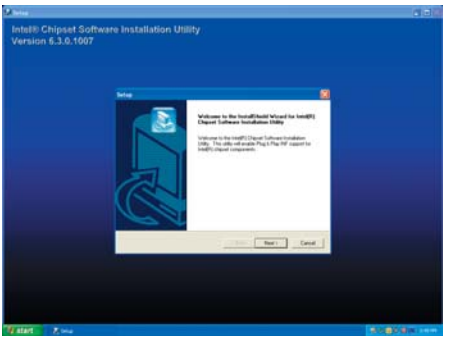
1. INF install Intel 852/855 GM/GME chipset system driver
2. VGA install on-board VGA driver
3. SOUND install AC97 Audio Codec Audio driver
4. DIRECTX install DirectxX driver
5. LAN to LAN install driver readme file

Each selection is illustrated as below:

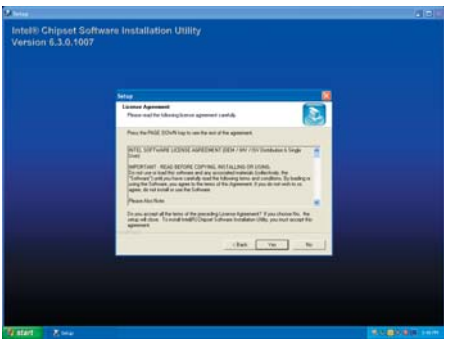
5-1 INF Install INTEL 852/855 Chipset system driver



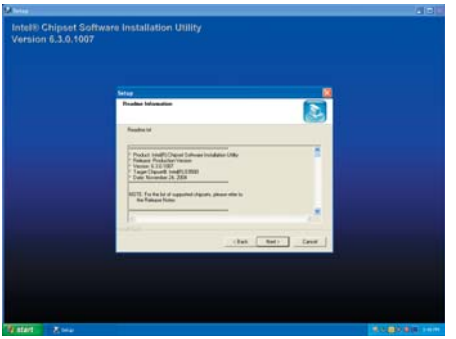
1.Click INF when System Install MENU appears.



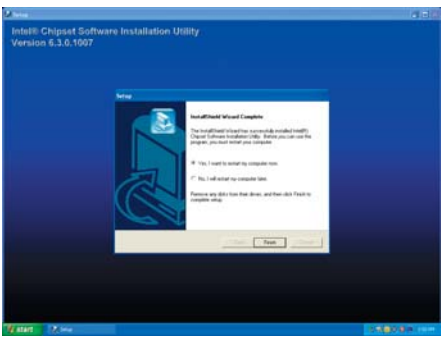
2.Click "Next" when Chipset Software Install Utility appears.



3.This License Agreement appears, click "Yes".



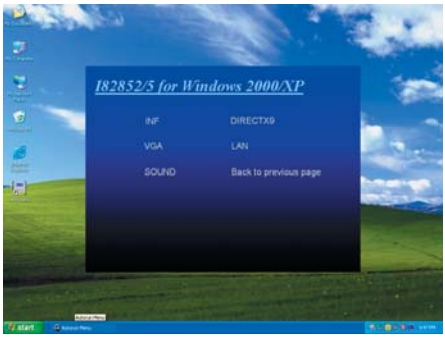
4. This Readme Information appears, Click "Next".



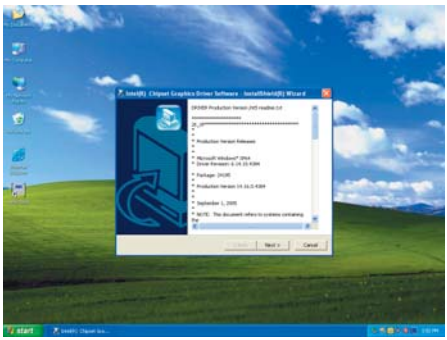
5. Click "Finish" to Restart Computer..

NOTE: SYSTEM INSTALL will auto detect file path
X: \driver\Intel\inf\setup.exe
This driver supports
WINDOWS 98SE\NT4.0\2000\XP

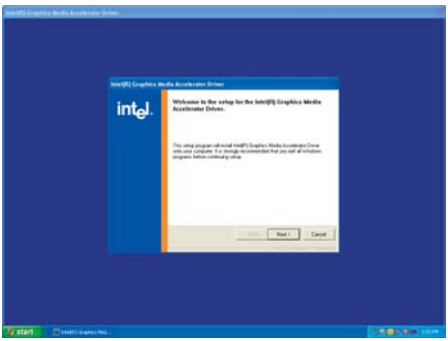
5-2 VGA Install Intel 852/855 VGA Driver



1.Click VGA when System Install MENU appears.

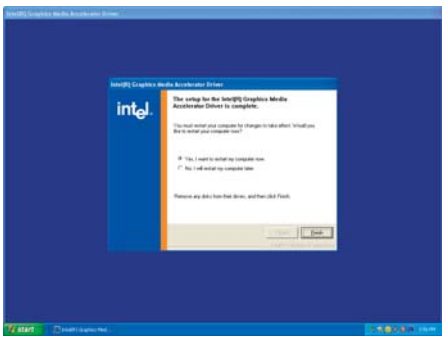


2.Click "Next" when Intel® Chipset Graphics Driver Setup appears.



3. Click "Next" when Intel® Graphics Media Accelerator Driver appear.

4. Click "Yes", This Announce CopyRight.



5. Click "Finish" to Restart Computer..

NOTE: The path of the file

For WINDOWS 98SE\ME

X:\driver\Intel\I82852_5\vga\win9xMe\Setup.exe

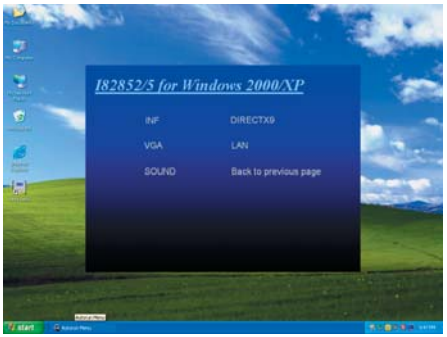
For NT4.0

X:\ driver\INTEL\I82852_5\VGA\winnt4\winnt41361.exe

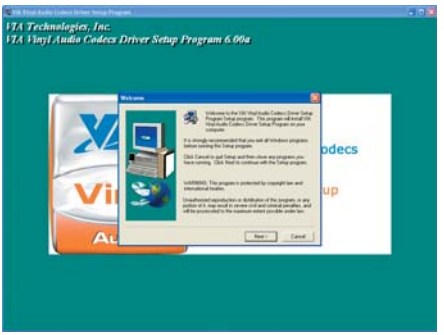
For WINDOWS 2000 XP

X: driver\Intel\I82852_5\vga\win2kxp\win2k_xp1416.exe

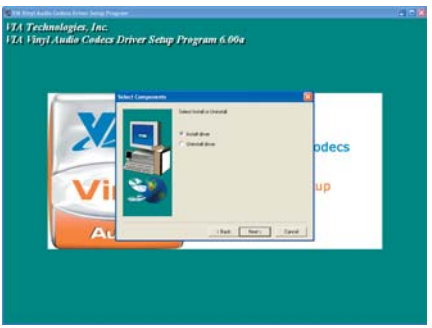
5-3 SOUND Install VIA Audio Codec



1.Click SOUND when System Install MENU appears.

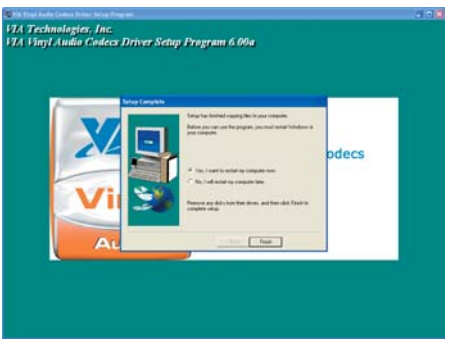


2.Click "Next" when VIA Audio driver setup appears.



3.Click "Next" to Install Driver .

4.Click "Continue Anyway" to Install Driver.



5. Click "Finish" Restart Computer..

NOTE: The path of the file
For 98SE/NT4.0/2K \XP
X:\driver\INTEL\I82852_5\SOUND\VIA\setup.exe

5-4 HOW TO DISABLE ON-BOARD SOUND

Enter BIOS SETUP. Choose INTEGRATE PERIPHERALS. Choose On board Device FUNCTION. Choose " AC97 Audio Disable " on-board sound function by pressing PAGE DOWN KEY to Disable.

5-5 HOW TO UPDATE BIOS

Method 1. Use " BIOS" to update BIOS in Windows 98 (refer to page 40)

Method 2. In DOS Mode

STEP 1. Prepare a boot disc. (you may make one by clicking START, clicking RUN, typing SYS A: , and clicking OK)

STEP 2. Copy utility program to your boot disc. You may copy it from DRIVER CD X:\FLASH\AWDFLASH.EXE or download it from our web site.

STEP 3. Copy the latest BIOS for CI852A from our web site to your boot disc.

STEP 4. Insert your boot disc into A:
Start the computer and type "Awdflash A:\CI852xxx.BIN/SN/PY/CC/R"
CI852xxx.BIN is the file name of the latest BIOS. It may be CI852AA1.BIN or CI852AA2.BIN
SN means don't save the current BIOS data
PY means renew the current BIOS data
CC means clear the current CMOS data
R means restart computer

STEP 5. Press ENTER and the BIOS will be updated, computer will restart automatically.

Appendix A: Power Consumption Test

Condition

Item	Spec
CPU	Intel Clereon M 600Mhz L2/0K
DDR RAM	hynix.HY5DU 5682BT-H/256MB DDR266
Operating System	Windows XPP/SP1
Test Program	3D Mark 2001SE
HDD 3.5"	Standard HDD
HDD 2.5"	Slim Type HDD
Mini PCI Card	Wireless LAN IEEE802.11g

Test Result for reference !

Hard Disk	Stand by	Start up		Operation	Shut down
		Maximum	Stable	Maximum	Maximum
Standard HDD	0.10A	2.47A	1.44A	1.77A	1.73A
Stand Type HDD	0.10A	1.35A	1.03A	1.38A	1.31A

The power consumption depends on your device choice!

Appendix B: BIOS Setup for IDE Storage

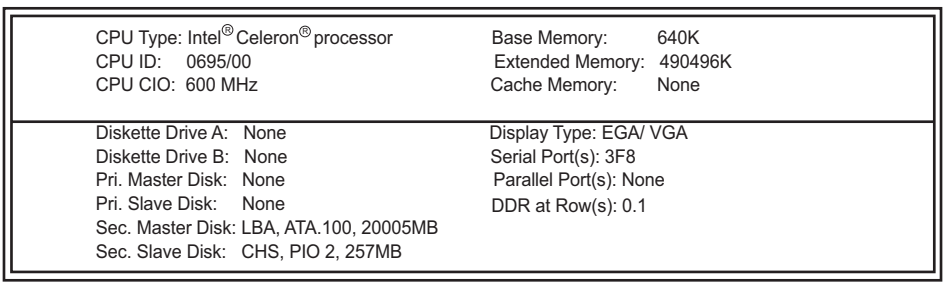
	In BIOS setup		Hardware Installation			
	Boot Device		Primary		Secondary	
	First	Second	Master	Slave	Master	Slave
1	HDD-0	HDD-3	***HD 3.5"**	CD-ROM	CF card	HD 2.5"
2	HDD-0	HDD-3	--	--	***CF card**	HD 2.5"
3	HDD-1	HDD-3	--	--	CF card	***HD 2.5"**
4	HDD-1	HDD-3	HD 3.5"	CD-ROM	***CF card**	HD 2.5"
5	HDD-2	HDD-3	HD 3.5"	CD-ROM	CF card	***HD 2.5"**
6	HDD-2	HDD-3	HD 3.5"	HD 3.5"	***CF card**	HD 2.5"
7	HDD-3	HDD-3	HD 3.5"	HD 3.5"	CF card	***HD 2.5"**
8	USB-FDD	HDD-3	HD 3.5"	HD 3.5"	CF card	***HD 2.5"**
9	CD-ROM	HDD-3	***HD 3.5"**	CD-ROM	CF card	HD 2.5"
10	CD-ROM	HDD-1	HD 3.5"	CD-ROM	***CF card**	HD 2.5"
11	USB-FDD	HDD-2	HD 3.5"	CD-ROM	CF card	***HD 2.5"**
12-Default	USB-FDD	CD-ROM	HD 3.5"	***CD-ROM**	CF card	HD 2.5"

***First Boot Device**

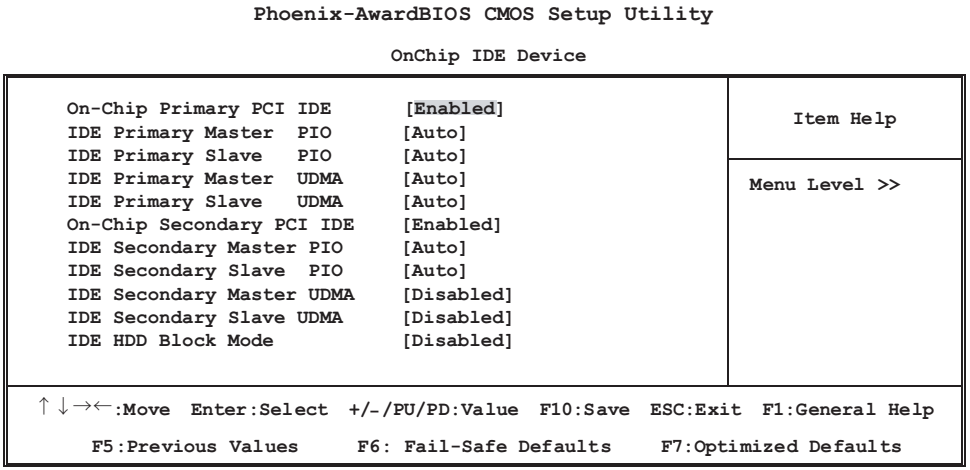
NOTE !

We highly recommend, the CF card is set to master and slim-type HDD is set to slave.

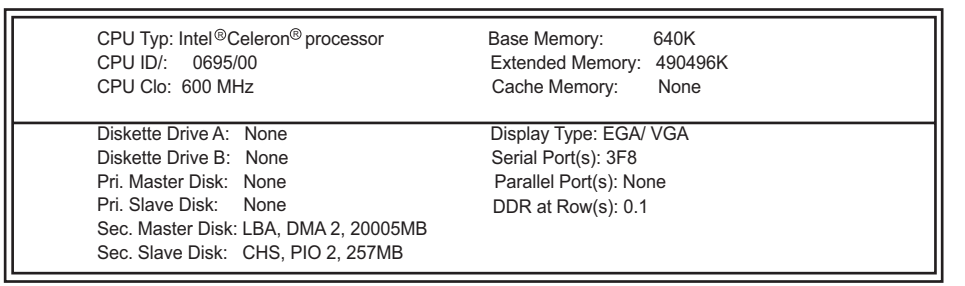
If slim-type HDD is set as Master and CF card is set as Slave, the booting table will show the wrong message.(Fig. B-1) It results from CF card. Please change the setting of "IDE Secondary Master UDMA" and "IDE Secondary Slave UDMA" from [Auto] to [Disable] (Fig. B-2) The correct booting table will.


CPU Type: Intel® Celeron® processor
CPU ID: 0695/00
CPU CIO: 600 MHz
Base Memory: 640K
Extended Memory: 490496K
Cache Memory: None
Diskette Drive A: None
Diskette Drive B: None
Pri. Master Disk: None
Pri. Slave Disk: None
Sec. Master Disk: LBA, ATA.100, 20005MB
Sec. Slave Disk: CHS, PIO 2, 257MB
Display Type: EGA/ VGA
Serial Port(s): 3F8
Parallel Port(s): None
DDR at Row(s): 0.1

(Fig. B-1)


Phoenix-AwardBIOS CMOS Setup Utility
OnChip IDE Device
On-Chip Primary PCI IDE [Enabled]
IDE Primary Master PIO [Auto]
IDE Primary Slave PIO [Auto]
IDE Primary Master UDMA [Auto]
IDE Primary Slave UDMA [Auto]
On-Chip Secondary PCI IDE [Enabled]
IDE Secondary Master PIO [Auto]
IDE Secondary Slave PIO [Auto]
IDE Secondary Master UDMA [Disabled]
IDE Secondary Slave UDMA [Disabled]
IDE HDD Block Mode [Disabled]
Item Help
Menu Level >>
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5:Previous Values F6: Fail-Safe Defaults F7:Optimized Defaults

(Fig. B-2)


CPU Typ: Intel®Celeron® processor
CPU ID/: 0695/00
CPU Clo: 600 MHz
Base Memory: 640K
Extended Memory: 490496K
Cache Memory: None
Diskette Drive A: None
Diskette Drive B: None
Pri. Master Disk: None
Pri. Slave Disk: None
Sec. Master Disk: LBA, DMA 2, 20005MB
Sec. Slave Disk: CHS, PIO 2, 257MB
Display Type: EGA/ VGA
Serial Port(s): 3F8
Parallel Port(s): None
DDR at Row(s): 0.1

show as Fig.B-3